# CFD-S39

# SERVICE MANUAL

*US Model*

**Ver 1.0 1999. 05**

| | | |
|---|---|---|
| CD Section | Model Name Using Similar Mechanism | CFD-S38 |
| | CD Mechanism Type | KSM-213CDM |
| | Optical Pick-up Name | KSS-213C |
| TC Section | Model Name Using Similar Mechanism | NEW |
| | Tape Transport Mechanism Type | MF-B7S-148 |

## SPECIFICATIONS

**AUDIO POWER SPECIFICATIONS**
POWER OUTPUT AND TOTAL HARMONIC DISTORTION
With 6-ohm loads, both channels driven from 100 - 10,000 Hz; rated 4 W per channel-minimum RMS power, with no more than 10% total harmonic distortion in AC operation.

**Other Specifications**
**CD player section**
System
Compact disc digital audio system
Laser diode properties
Material: GaAlAs
Wave length: 780 nm
Emission duration: Continuous
Laser output: Less than 44.6 µW
(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)
Spindle speed
200 r/min (rpm) to 500 r/min (rpm) (CLV)
Number of channels
2
Frequency response
20 - 20,000 Hz +1/–2 dB
Wow and flutter
Below measurable limit

**Radio section**
Frequency range
FM: 87.6 - 108 MHz
AM: 530 - 1,710 kHz
Aerials
FM: Telescopic aerial
AM: Built-in ferrite bar aerial

**Cassette-corder section**
Recording system
4-track 2 channel stereo
Fast winding time
Approx. 90 sec. with Sony cassette C-60
Frequency response
TYPE I (normal): 70 - 13,000 Hz

**General**
Speaker
Full range: 10 cm (4 in.) dia.,
6 ohms, cone type (2)
Outputs
Headphones jack (stereo minijack)
For 16 - 68 ohms impedance headphones

– Continued on next page –

## CD RADIO CASSETTE-CORDER

MICROFILM

SONY®

Power requirements
For CD radio cassette-corder:
120 V AC, 60 Hz
9 V DC, 6 size D (R20) batteries
For memory back-up:
6 V DC, 4 size AA (R6) batteries
For remote control:
3 V DC, 2 size AA (R6) batteries

Power consumption
AC 18 W

Battery life
For CD radio cassette-corder:

| **FM recording** |
|---|
| Sony R20P: approx. 3.5 h |
| Sony alkaline LR20: approx. 10 h |
| **Tape playback** |
| Sony R20P: approx. 1.5 h |
| Sony alkaline LR20: approx. 5 h |
| **CD playback** |
| Sony R20P: approx. 1 h |
| Sony alkaline LR20: approx. 4 h |

Dimensions
Approx. 420 × 156 × 262 mm (w/h/d)
(16 5/8 × 6 1/4 × 10 3/8 inches) (incl. projecting parts)

Mass
Approx. 4.7 kg (10 lb. 6 oz.) (incl. batteries)

Supplied accessories
AC power cord (1)
Remote control RMT-CS38A (1)

Design and specifications are subject to change without notice.

**CAUTION**

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

### Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

### Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

### NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

### NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

## SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

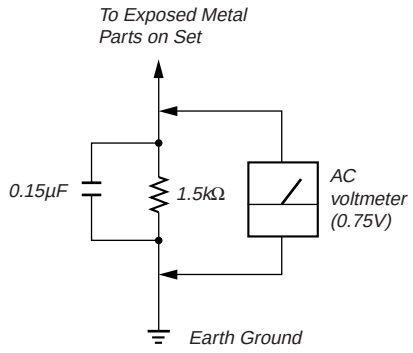


***Fig. A. Using an AC voltmeter to check AC leakage.***

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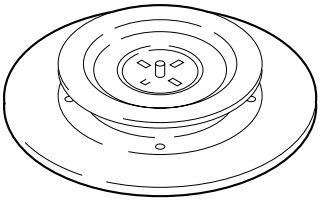
# SECTION 1
# SERVICING NOTES

## CHUCK PLATE JIG ON REPAIRING

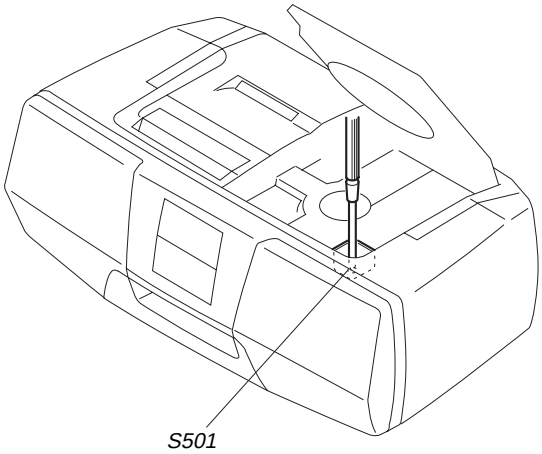
On repairing CD section, playing a disc without the lid (CD), use Chuck Plate Jig.

• Code number of Chuck Plate Jig: X-4918-255-1



### LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Turn ON the POWER button and press FUNCTION button to CD position.
2. Open the lid (CD).
3. Turn on S501 with screwdriver, etc. as following figure.
4. Press the CD ▷II button.
5. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down three times for focus search.

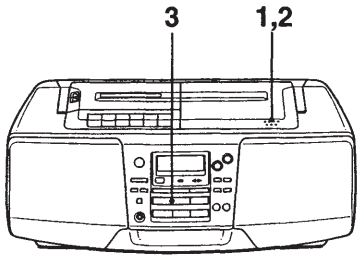


# SECTION 2
# GENERAL

This section is extracted from instruction manual.

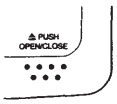


## Playing a CD

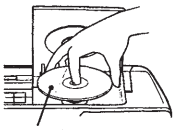



Connect the supplied AC power cord (see page 25).

**1**

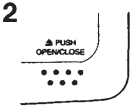



Press ≜ PUSH OPEN/CLOSE down to open the CD compartment and place the CD on the CD compartment.

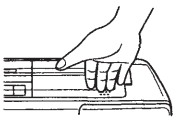


With the label side up

**2**




Close the lid of the CD compartment.

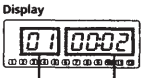


**3**

Press ▶II (► on the remote).

The player turns on (direct power-on) and plays all the tracks once.

Display



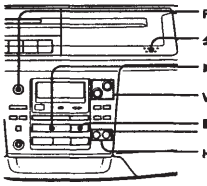

Track number  Playing time



**Tip**

Next time you want to listen to a CD, just press ▶II. The player turns on automatically and starts playing the CD.

**Use these buttons for additional operations**

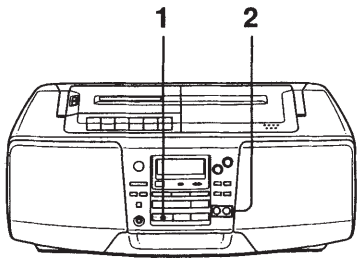



| To | Press |
|---|---|
| adjust the volume | VOLUME +, – (VOL +, – on the remote) |
| stop playback | ■ |
| pause playback | ▶II (II on the remote) Press the button again to resume play after pause. |
| go to the next track | ▶▶I |
| go back to the previous track | I◀◀ |
| remove the CD | ≜ PUSH OPEN/CLOSE |
| turn on/off the player | POWER |



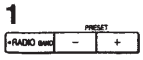


## Listening to the radio



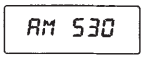

Connect the supplied AC power cord (see page 25).

**1**




Press RADIO BAND until the band you want appears in the display (direct power-on).

Display




**2**

Hold down TIME SET•TUNE + or – (TUNE + or – on the remote) until the frequency digits begin to change in the display.

The player automatically scans the radio frequencies and stops when it finds a clear station.

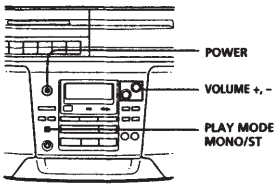
If you can't tune in a station, press the button repeatedly to change the frequency step by step.

Indicates an FM stereo broadcast

**Tips**

- If the FM broadcast is noisy, press PLAY MODE •MONO/ST until "Mono" appears in the display and the radio will play in monaural.
- Next time you want to listen to the radio, just press RADIO BAND. The player turns on automatically and starts playing the previous station.

**Use these buttons for additional operations**

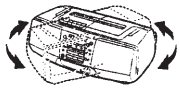



| To | Press |
|---|---|
| adjust the volume | VOLUME +, – (VOL +, – on the remote) |
| turn on/off the radio | POWER |

**To improve broadcast reception**

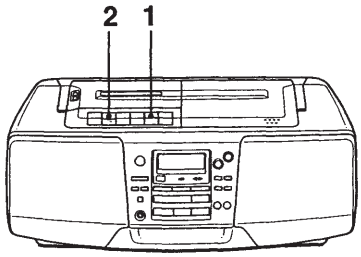
Reorient the antenna for FM. Reorient the player itself for AM.

for FM

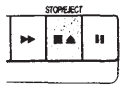


for AM

## Playing a tape

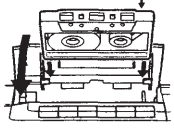


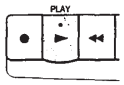

Connect the supplied AC power cord (see page 25).

**1** 


Press ■⏏ to open the tape compartment and insert a recorded tape. Use TYPE I (normal) tape only. Close the compartment.

**With the side you want to play facing upward**



**2** 


Press ►.

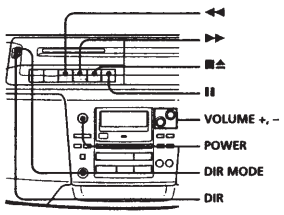
The player turns on (direct power-on) and starts playing.

**Display**

**Tip**

Next time you want to listen to a tape, just press ►. The player turns on automatically and starts playing the tape.

**Use these buttons for additional operations**




| To | Do this |
|---|---|
| adjust the volume | Press VOLUME +, – (VOL +, – on the remote). |
| stop playback | Press ■⏏. |
| play the reverse side | Push DIR in the direction of the arrow. |
| fast-forward or rewind the tape | Press ►► or ◄◄. |
| pause playback | Press II. Press the button again to resume play after pause. |
| eject the cassette | Press ■⏏. |
| turn on/off the player | Press POWER. |

**To select the direction of the tape**

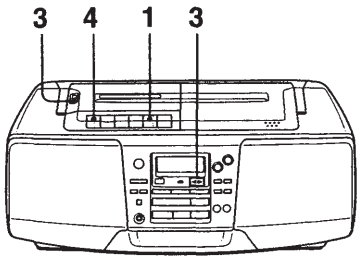
Set DIR MODE as follows:

| To play | Set DIR MODE to |
|---|---|
| one side of the tape | ⇀ |
| both sides of the tape repeatedly | ⇄ |

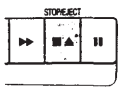




## Recording on a tape




Connect the supplied AC power cord (see page 25).

**1** 

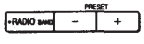

Press ■⏏ to open the tape compartment and insert a blank tape. Use TYPE I (normal) tape only.

**With the side you want to record on facing upward**

**2**

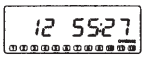
Select the program source you want to record.

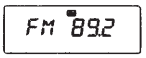
To record from the CD player, insert a CD (see page 4) and press ■ on the CD section.




To record from the radio, tune in the station you want (see page 6).

**Display**



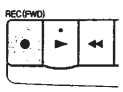






**3**


Make sure that ▻ (forward) of the tape direction indicators is lit. If ◅ (reverse) is lit, push DIR in the direction of the arrow to switch the tape direction.

**Tape direction indicators**

**4** 


Press ● to start recording (► is depressed automatically).

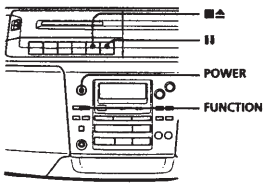
**Note**

Recording can be made only on the forward side regardless of the position of the DIR MODE switch. If ◅ (reverse) of the tape direction indicators is lit, the ● button cannot be pressed.

**Tips**

- Adjusting the volume or the audio emphasis (see page 27) will not affect the recording level.
- For the best results, use the AC power as a power source.
- To erase a recording, proceed as follows:
  1 Insert the tape whose recording you want to erase.
  2 Press FUNCTION to select "TAPE".
  3 Press ●.

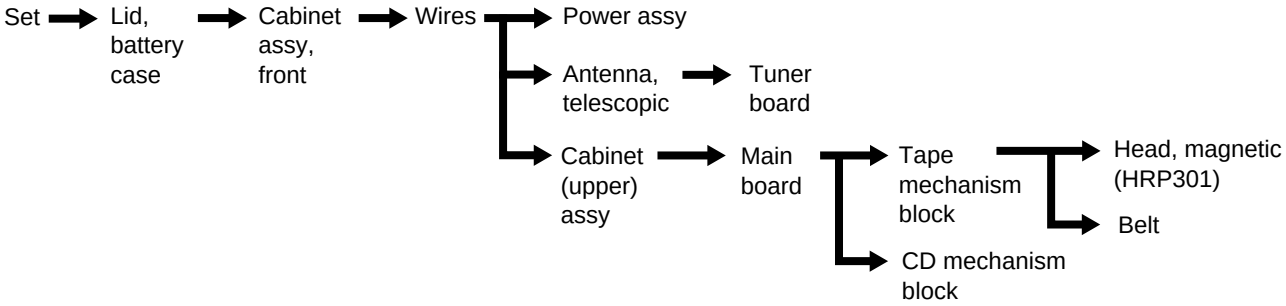
**Use these buttons for additional operations**




| To | Press |
|---|---|
| stop recording | ■⏏ |
| pause recording | II Press the button again to resume recording. |
| turn on/off the player | POWER |

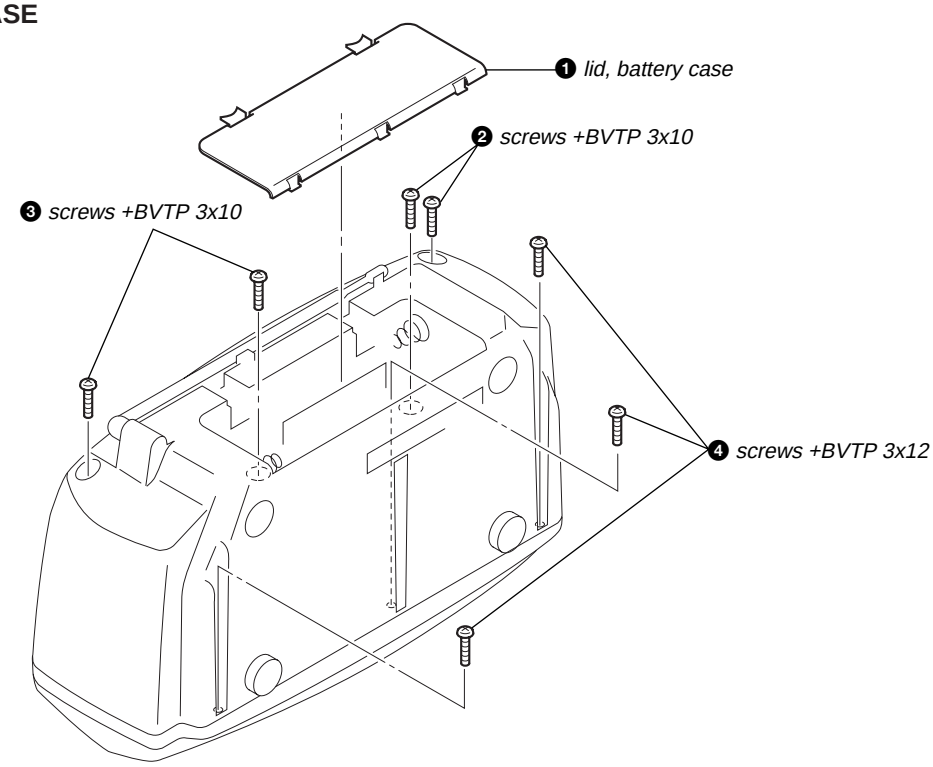
# SECTION 3
# DISASSEMBLY

• The equipment can be removed using the following procedure.

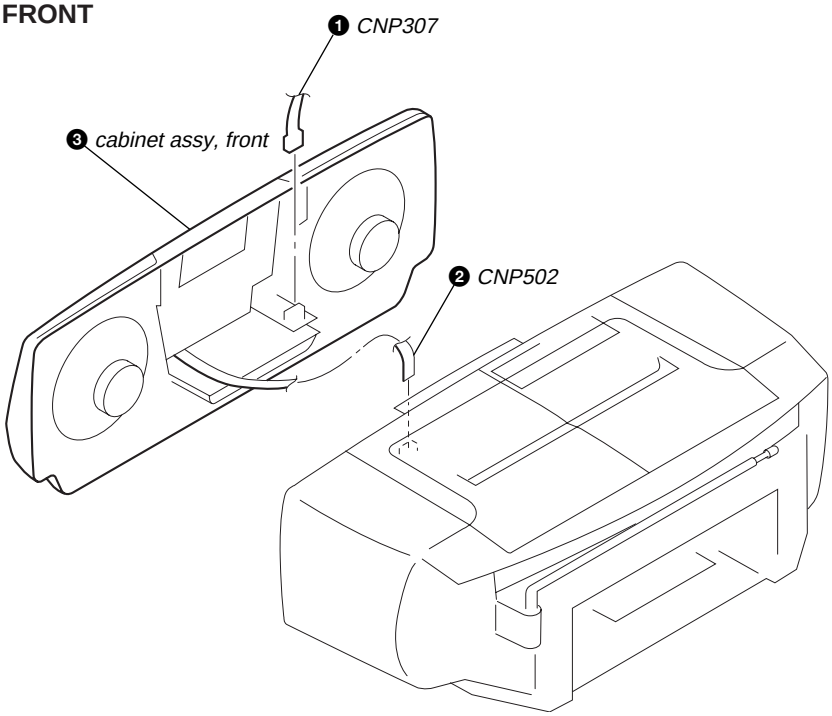



**Note :** Follow the disassembly procedure in the numerical order given.

### 3-1. LID, BATTERY CASE

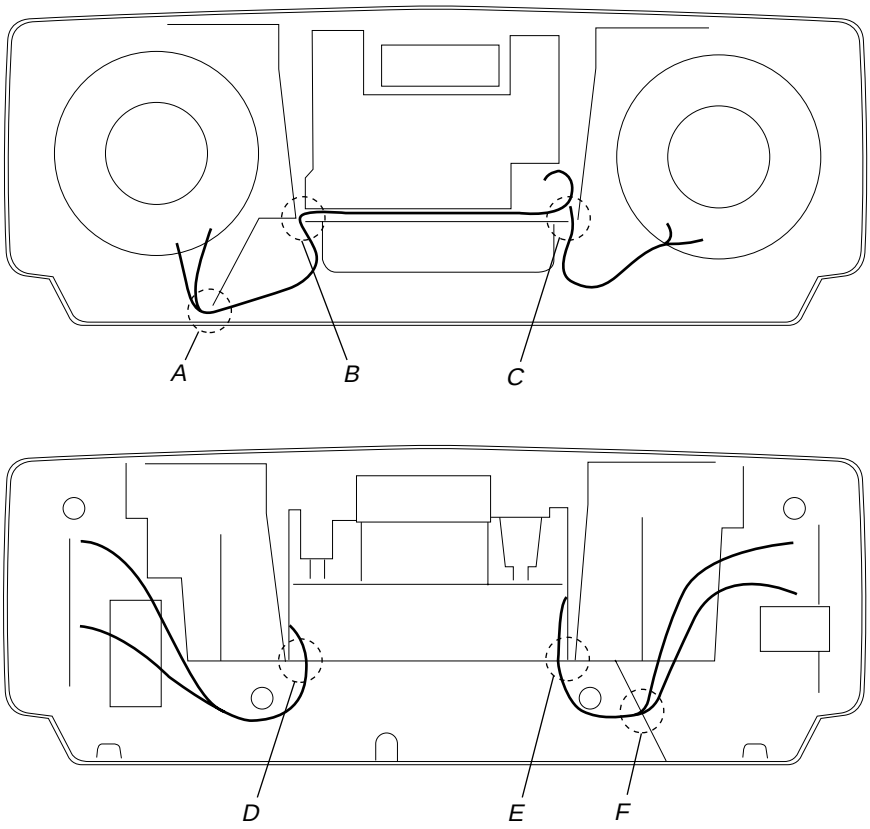



### 3-2. CABINET ASSY, FRONT

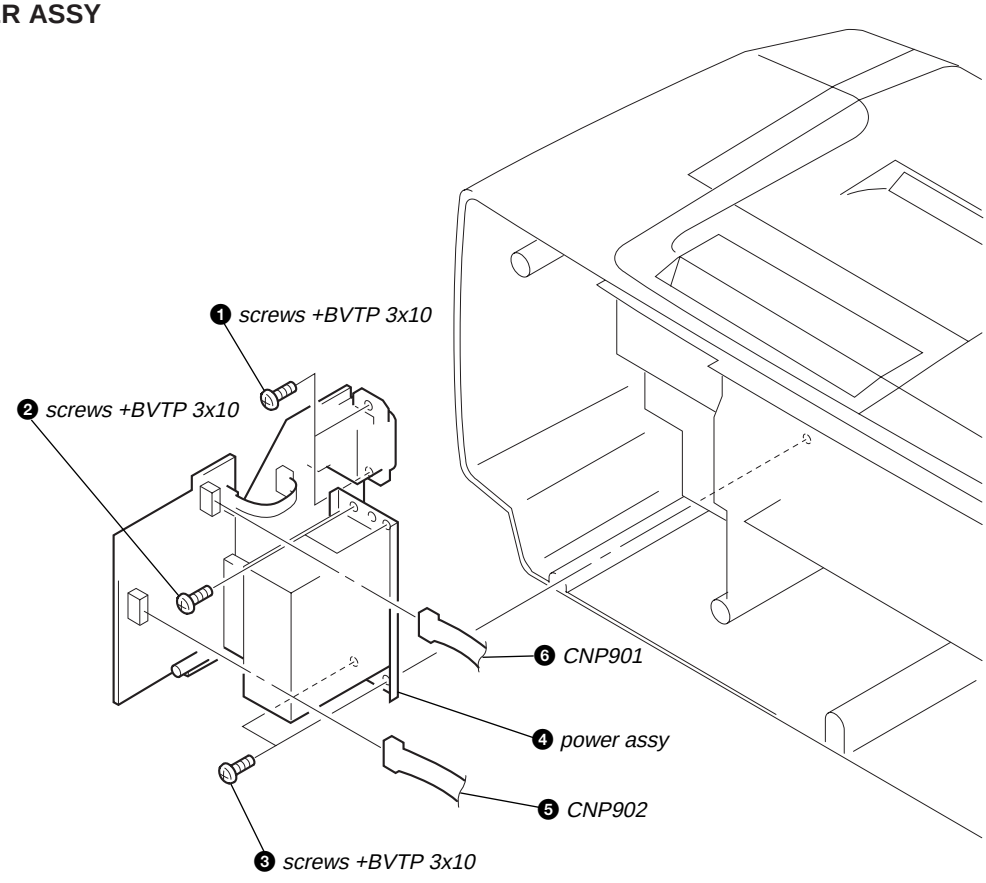


### 3-3. WIRES

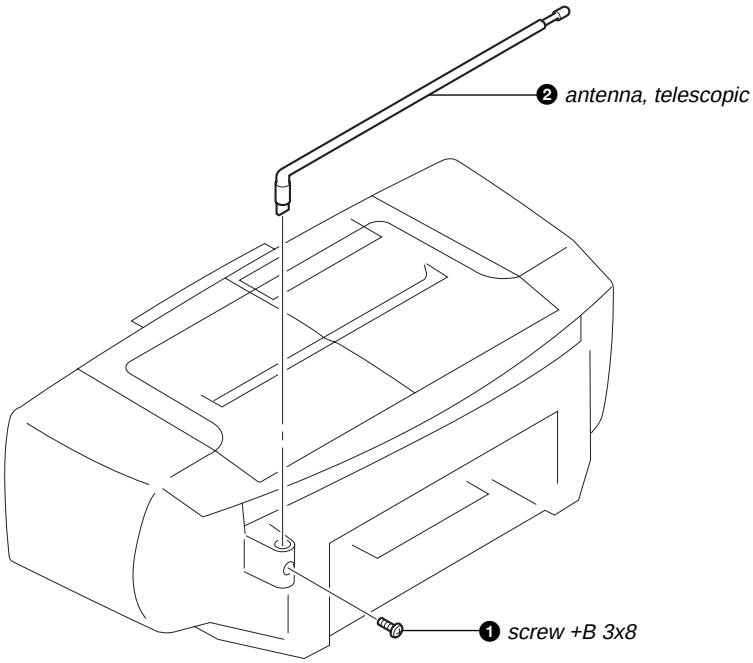
Put flat cable and wires between the cabinets and push them in the grooves located at A to F in the figure to prevent disconnection before assembling the set.



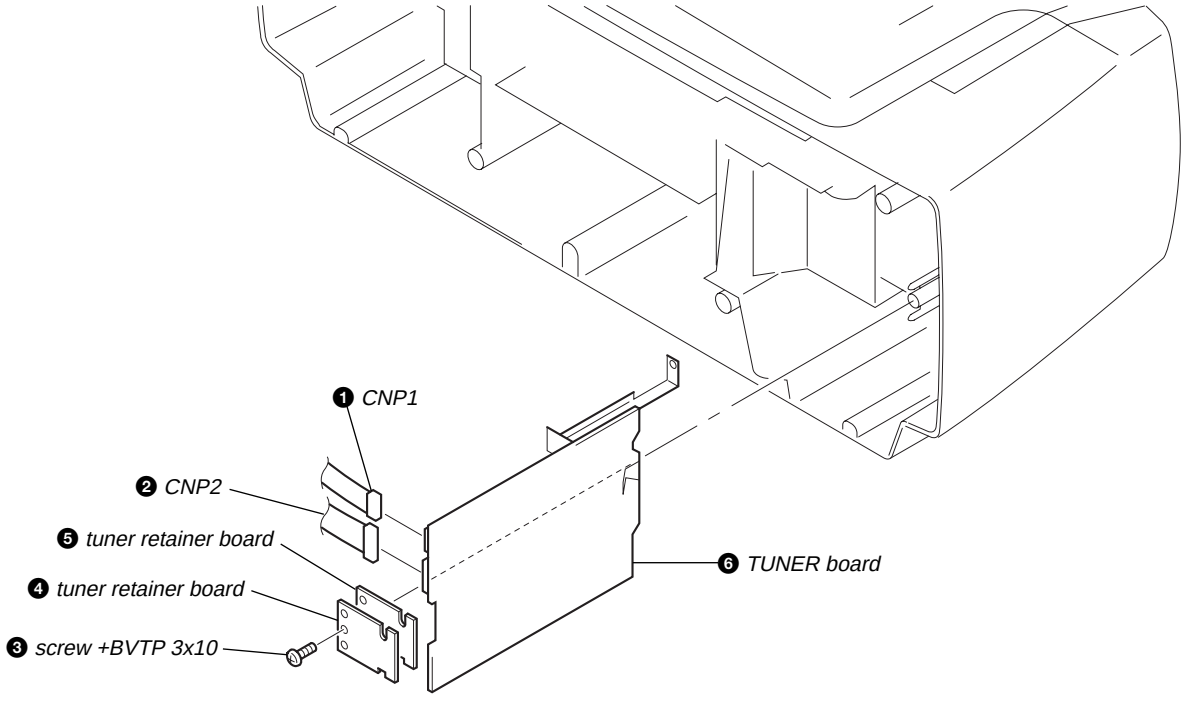

### 3-4. POWER ASSY



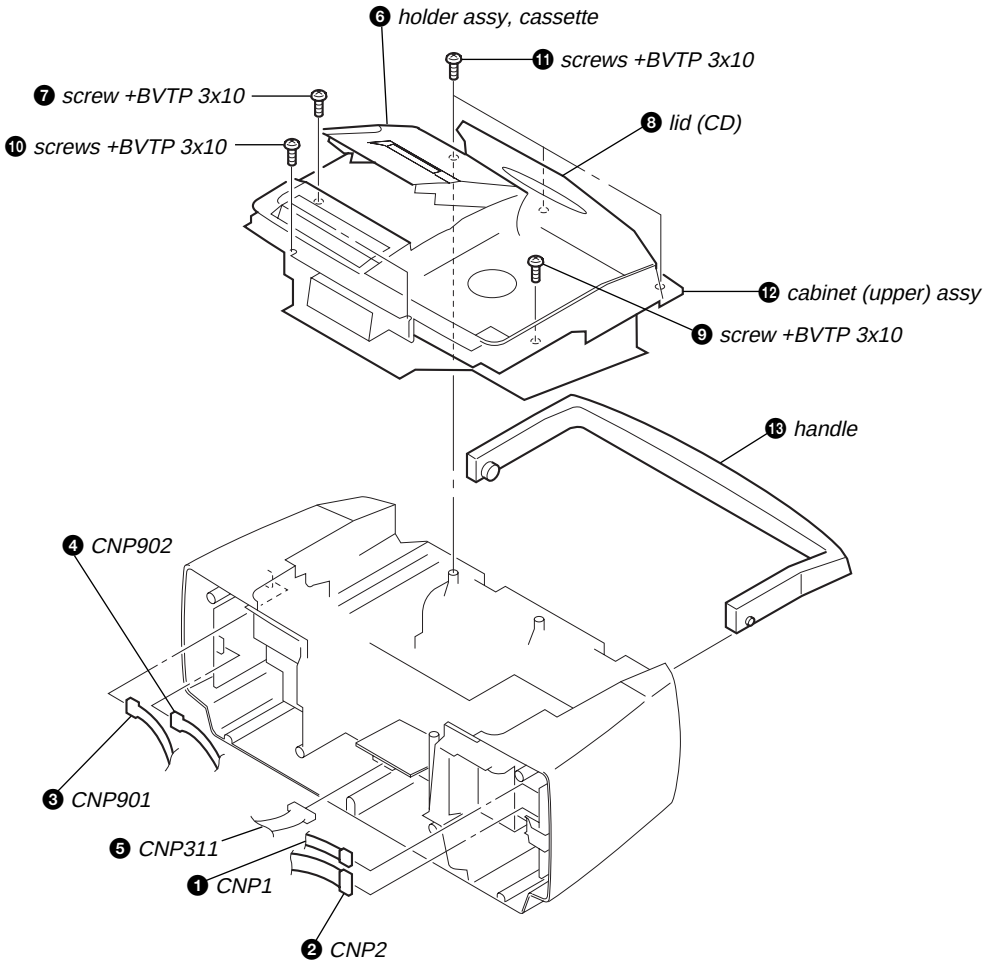
### 3-5. ANTENNA, TELESCOPIC



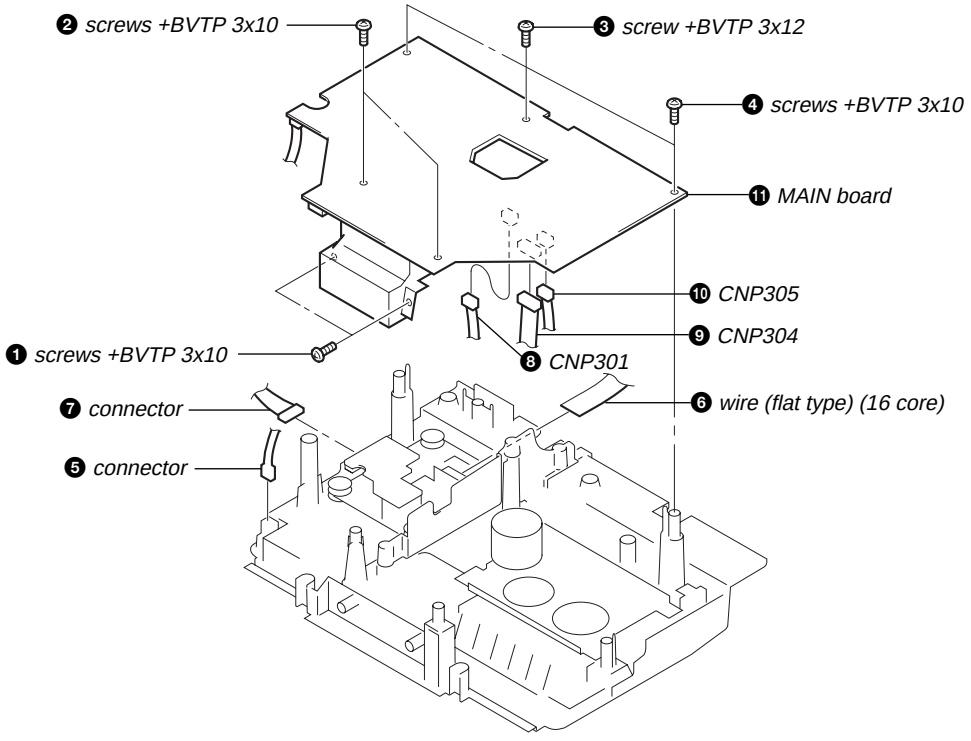

### 3-6. TUNER BOARD



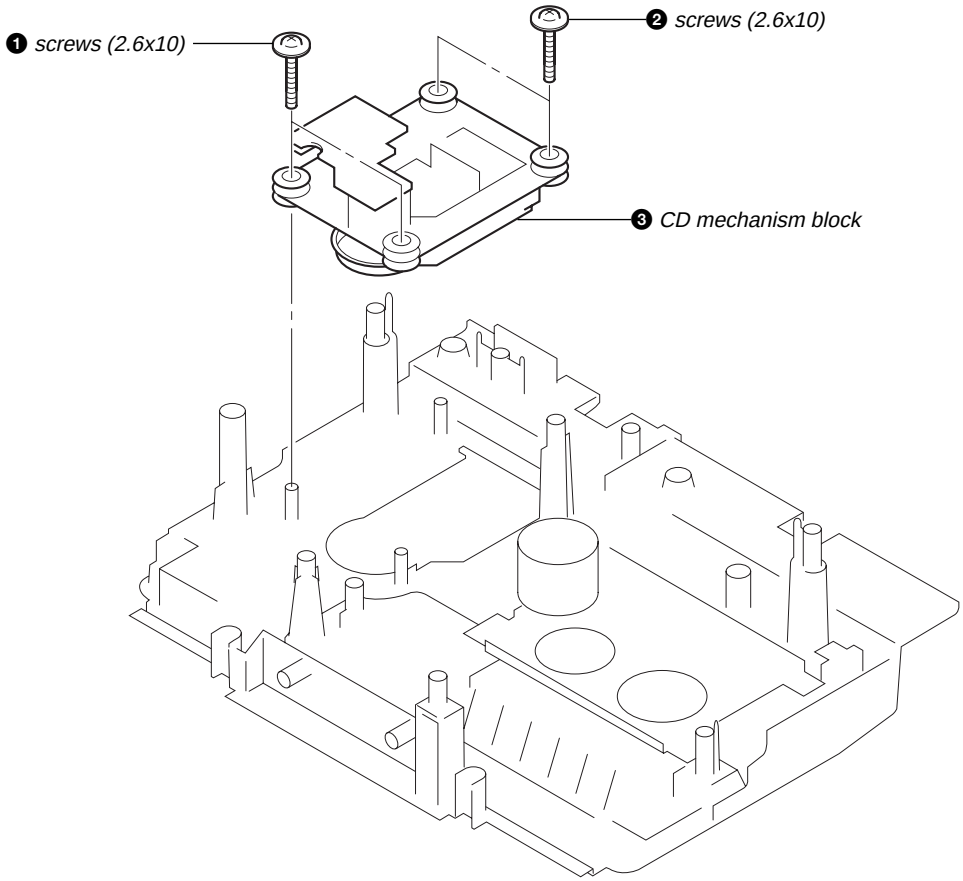
### 3-7. CABINET (UPPER) ASSY



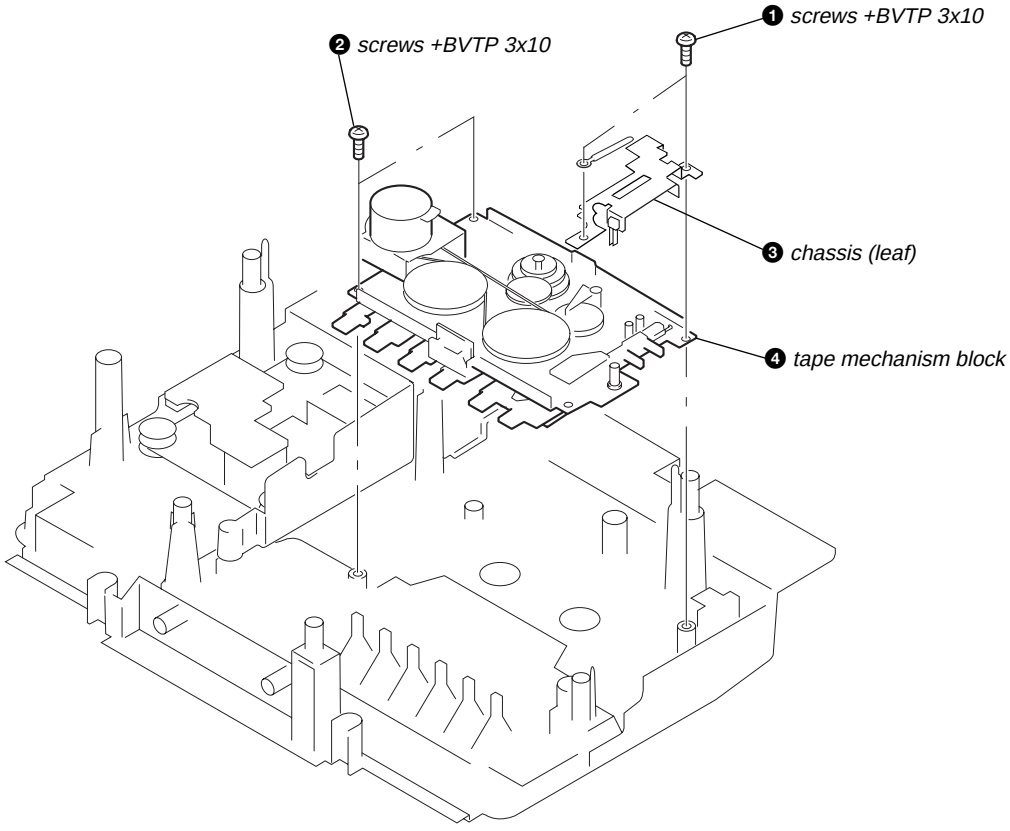

### 3-8. MAIN BOARD



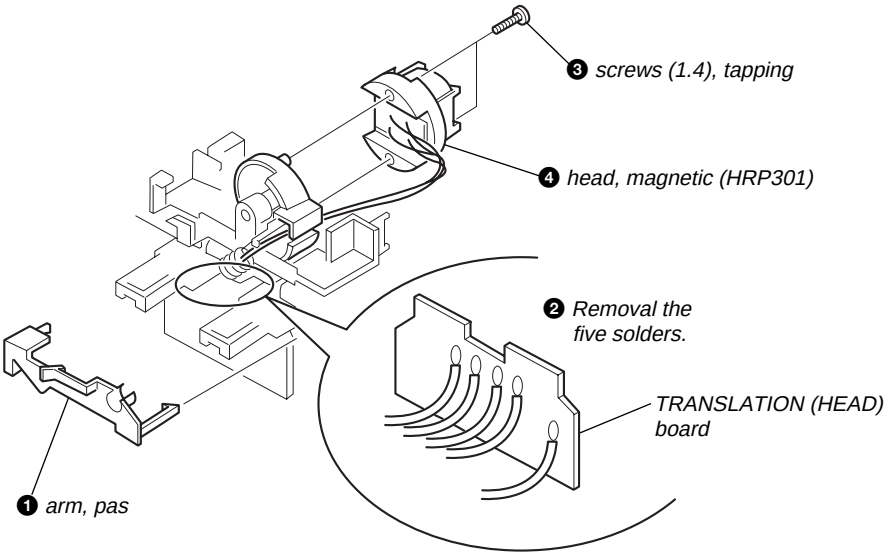
### 3-9. CD MECHANISM BLOCK



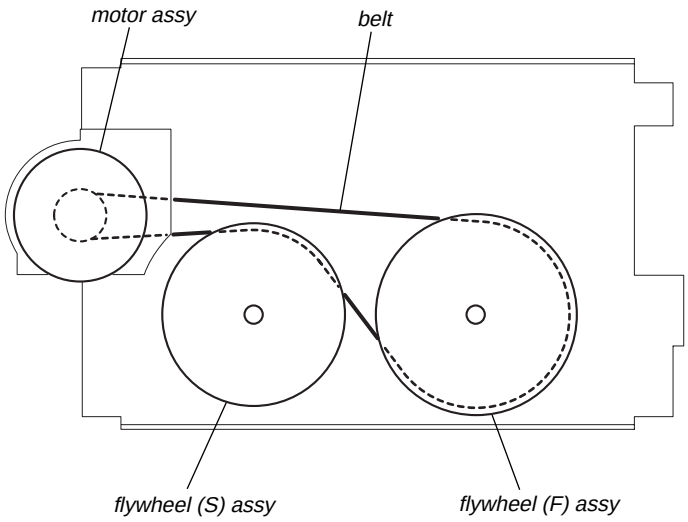

### 3-10. TAPE MECHANISM BLOCK



### 3-11. HEAD, MAGNETIC (HRP301)




### 3-12. BELT



# SECTION 4
# MECHANICAL ADJUSTMENTS

## PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback head, erase head, capstan, pinch roller, rubber belts, idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head magnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

### Torque Measurement

| Mode | Torque Meter | Meter Reading |
|---|---|---|
| Forward | CQ-102C | 25 – 60 g • cm (0.35 – 0.83 oz • inch) |
| Forward back tension | CQ-102C | 1 – 5 g • cm (0.014 – 0.069 oz • inch) |
| Reverse | CQ-102RC | 25 – 60 g • cm (0.35 – 0.83 oz • inch) |
| Reverse back tension | CQ-102RC | 1 – 5 g • cm (0.014 – 0.069 oz • inch) |
| Fast Forward | CQ-201B | 55 – 140 g • cm (0.76 – 1.94 oz • inch) |
| Rewind | CQ-201B | 55 – 140 g • cm (0.76 – 1.94 oz • inch) |

### Tape Tension Measurement

| Mode | Tension Meter | Meter Reading |
|---|---|---|
| Forward | CQ-403A | more than 170 g (more than 6.00 oz) |
| Reverse | CQ-403R | |

# SECTION 5
# ELECTRICAL ADJUSTMENTS

**TAPE SECTION** **0 dB = 0.775 V**

**• Standard Output Level**

| Output terminal | HP OUT |
|---|---|
| load impedance | 32 Ω |
| output signal level | 0.25 V (–10 dB) |

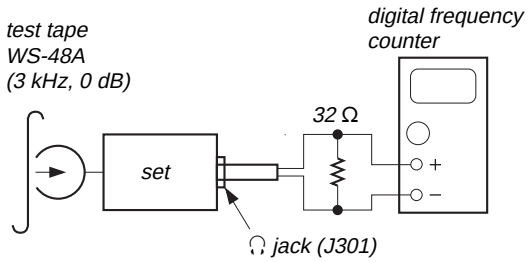
**• Test Tape**

| Type | Signal | Used for |
|---|---|---|
| WS-48A | 3 kHz, 0 dB | tape speed adjustment |

### Tape Speed Adjustment

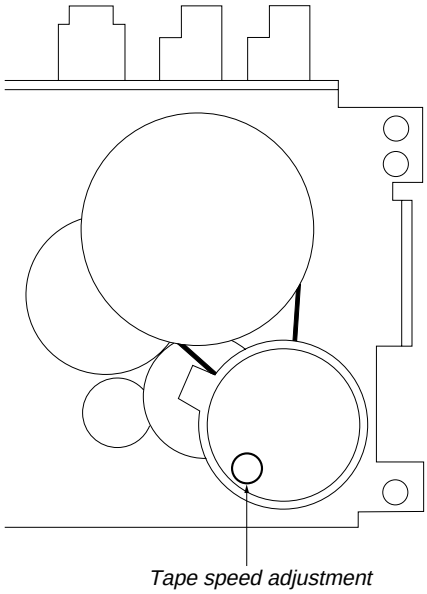
**Procedure:**

Mode: playback



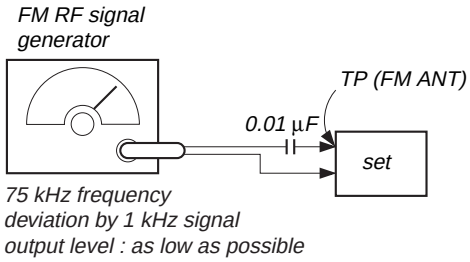

1. Playback the test tape in the FWD playback mode.
2. Confirm that the digital frequency counter reading indicates a value in the range of 2,940 to 3,060 Hz at tape top.
3. If the specification is not satisfied, adjust variable resistor of motor until the frequency counter reading is as close to 3,000 Hz as possible at the FWD tape top.
   Specification : 2,910 to 3,090 Hz
4. Frequency difference between the beginning and the end of the tape should be within 1.5% (45 Hz).

**Adjustment Location:**

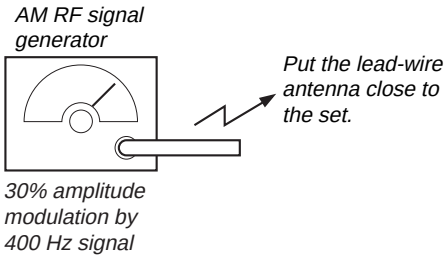


## TUNER SECTION | 0 dB = 1 µV

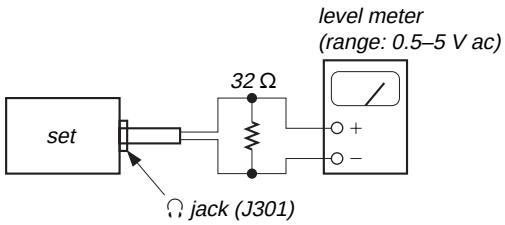
- **FM Section**
  **Setting:**
  RADIO (BAND) button: FM



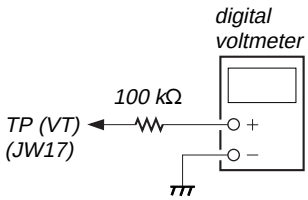

- **AM Section**
  **Setting:**
  RADIO (BAND) button: AM




- **Connecting Level Meter (FM and AM)**




- **Connecting Digital Voltmeter (FM and AM)**




- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

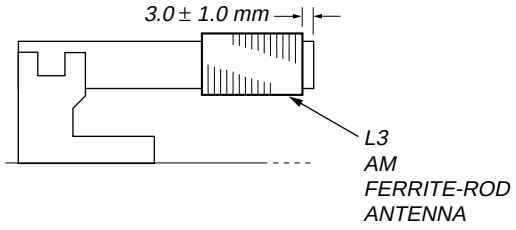
| FM FREQUENCY COVERAGE ADJUSTMENT | | |
|---|---|---|
| Frequency Display | 87.5 MHz | 108 MHz |
| Reading on Digital voltmeter | 1.6 ± 0.4 V | 4.3 ± 0.1V |
| Adjustment Part | <confirmation> | L2 |

| FM TRACKING ADJUSTMENT | |
|---|---|
| Adjust for a maximum reading on level meter. | |
| L1 | CT1 |
| 87.5 MHz | 108 MHz |

| AM FREQUENCY COVERAGE CHECK | | |
|---|---|---|
| Frequency Display | 530 kHz | 1,710 kHz |
| Reading on Digital voltmeter | $1.0^{+0.7\ V}_{-0.5\ V}$ | $4.8^{+1.2V}_{-0.6\ V}$ |
| Adjustment Part | <confirmation> | <confirmation> |

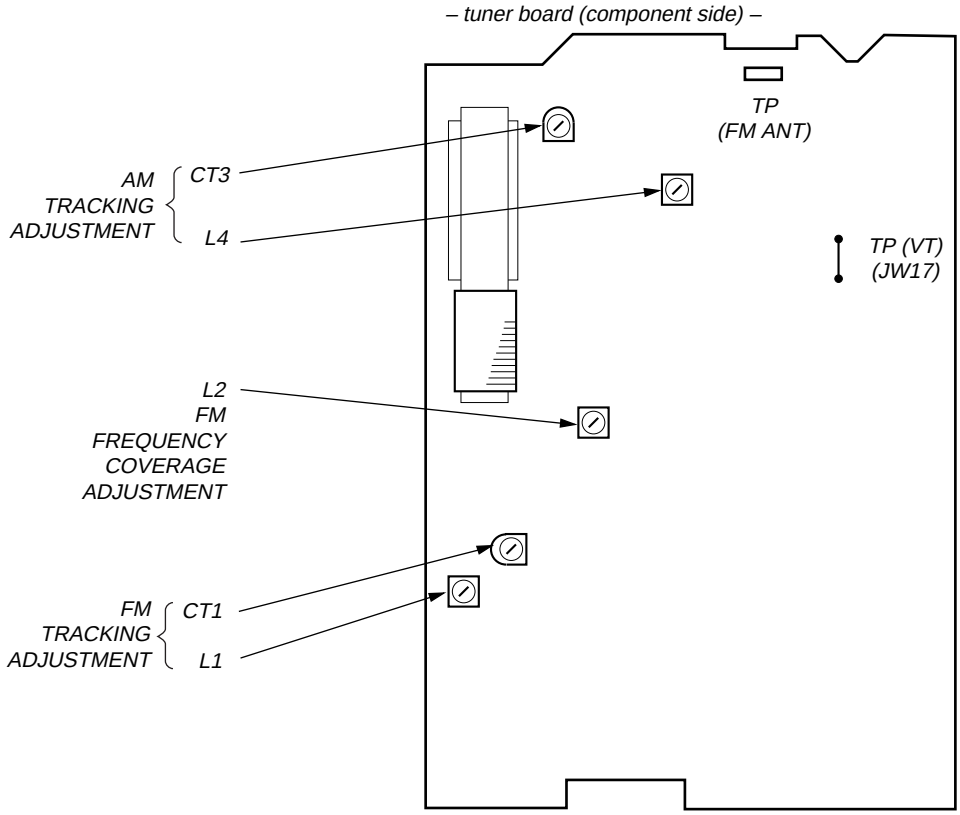
| AM TRACKING ADJUSTMENT | |
|---|---|
| Adjust for a maximum reading on level meter. | |
| L4 | CT3 |
| 620 kHz | 1,400 kHz |

- For AM adjustment, fix the ferrite-rod antenna (L3) as shown below and then perform tracking adjustment at L4 and CT3. Lastly check the voltage.




**Adjustment Location:** See page 15.

**Adjustment Location:**




## CD SECTION

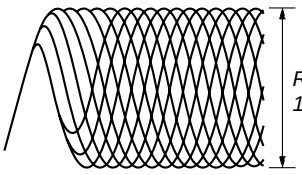
CD section adjustments are done automatically in this set.
In case of operation check, confirm that focus bias.

### FOCUS BIAS CHECK

1. Connect the oscilloscope between IC701 pin ㉝ (TP RFO) and GND on CD board.
2. Insert the disc (YEDS-18). (Part No. : 3-702-101-01)
3. Press the CD ▷II button.
4. Confirm that the oscilloscope waveform is as shown in the figure below. (eye pattern)
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

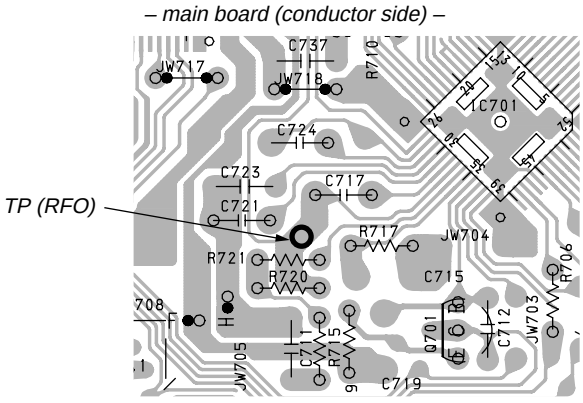
• RF signal reference waveform (eye pattern)

*VOLT/DIV : 200 mV (10 : 1 probe in use)*
*TIME/DIV : 500 nS*




When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

**Test Point:**



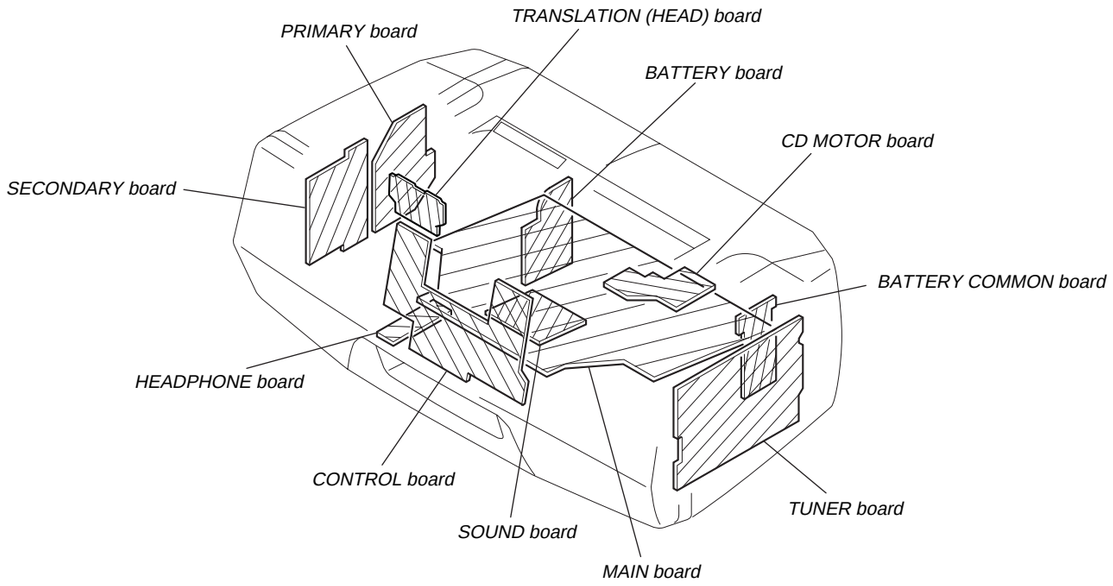
# SECTION 6
# DIAGRAMS

## 6-1. IC PIN DESCRIPTION

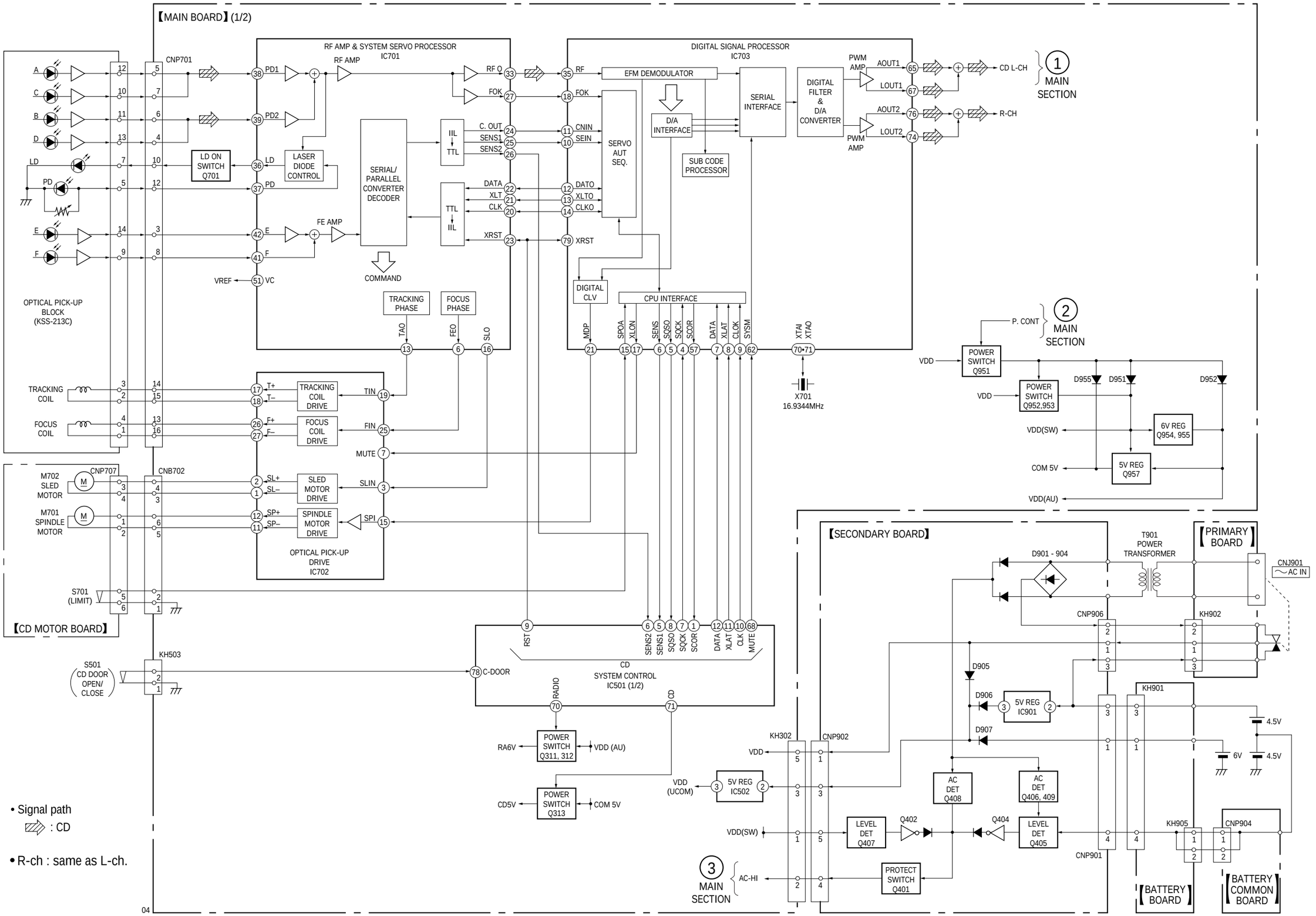
**• IC501 CXP83620-007Q (SYSTEM CONTROL)**

| Pin No. | Pin Name | I/O | Pin Description |
|---|---|---|---|
| 1 | C-SCOR | I | CD SCOR input |
| 2 | RMC | I | Sircs receiver input |
| 3, 4 | NC | — | Not used. |
| 5 | C-SENS1 | I | CD SENSE-1 input |
| 6 | C-SENS2 | I | CD SENSE-2 input |
| 7 | C-SQCK | O | CD Sub-Q read clock output |
| 8 | C-SQSO | I | CD Sub-Q data input |
| 9 | C-RST | O | CD reset output |
| 10 | C-CLOCK | O | CD serial clock output |
| 11 | C-LATCH | O | CD serial latch output |
| 12 | C-DATA | O | CD serial data output |
| 13 | $\overline{\text{REC}}$ | I | Tape record signal input L: REC |
| 14 | R-COUNT | I | Tuner PLL data input |
| 15 | R-DATA | O | Tuner PLL data output |
| 16 | R-CLOCK | O | Tuner PLL clock output |
| 17 | R-LATCH | O | Tuner PLL latch output |
| 18 | V-LATCH | O | Volume latch output |
| 19 | V-DATA | O | Volume data output |
| 20 | V-CLOCK | O | Volume clock output |
| 21 | P-CON | O | System power control output |
| 22 | DIRECTION | I | Tape pass direction or direction change input |
| 23 – 25 | KEY-1 – 3 | I | Key input |
| 26 | NC | — | Not used. |
| 27 | INIT | O | Initial set signal output |
| 28 | MODE CHECK | I | Mode set pin |
| 29 | SHIFT CLOCK | O | Shift clock output |
| 30 | $\overline{\text{RST}}$ | I | System reset input |
| 31 | EXTAL | I | Oscillation input (4.19 MHz) |
| 32 | XTAL | O | Oscillation output (4.19 MHz) |
| 33 | VSS | — | GND |
| 34 | VL | O | LCD drive port ON/OFF output |
| 35 – 37 | VLC-3 – 1 | O | LCD drive voltage terminal |
| 38 – 41 | COM0 – 3 | O | LCD drive common output |
| 42 – 64 | SEG0 – 22 | O | LCD drive segment output |
| 65 | NC | — | Not used. |
| 66 | A-MUTE | O | Audio mute output H: Mute |
| 67 | B-MUTE | O | Tuner block mute output H: Mute |
| 68 | C-MUTE | O | CD block mute output H: Mute |
| 69 | TAPE | O | Tape function output H: Tape |
| 70 | RADIO | O | Tuner function output H: Radio |
| 71 | $\overline{\text{CD}}$ | O | CD function output L: CD |
| 72 | VDD | — | Power supply pin (+5 V) |
| 73 | TX | O | Oscillation output (32.768 kHz) |
| 74 | TEX | I | Oscillation input (32.768 kHz) |
| 75 | NC | — | Not used. |
| 76 | ISS1 | O | Not used. |
| 77 | ISS2 | O | Not used. |
| 78 | C-DOOR | I | CD door open/close switch input L: Close |
| 79 | $\overline{\text{TC-PLAY}}$ | I | Tape play switch input L: Tape |
| 80 | REG CHK | I | Regulator check signal input H: ON |

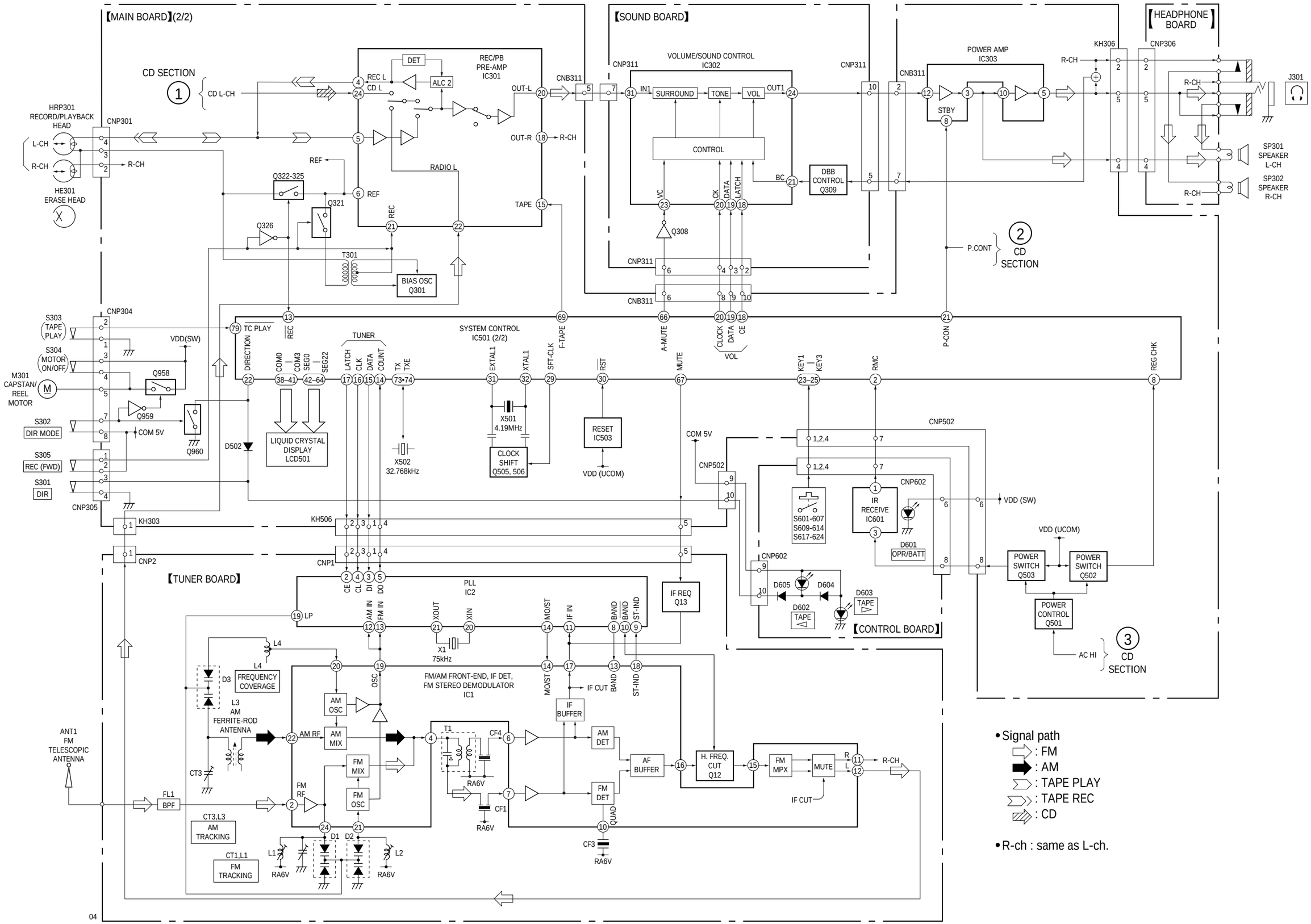
## 6-2. CIRCUIT BOARDS LOCATION



## 6-3. BLOCK DIAGRAM — CD SECTION —

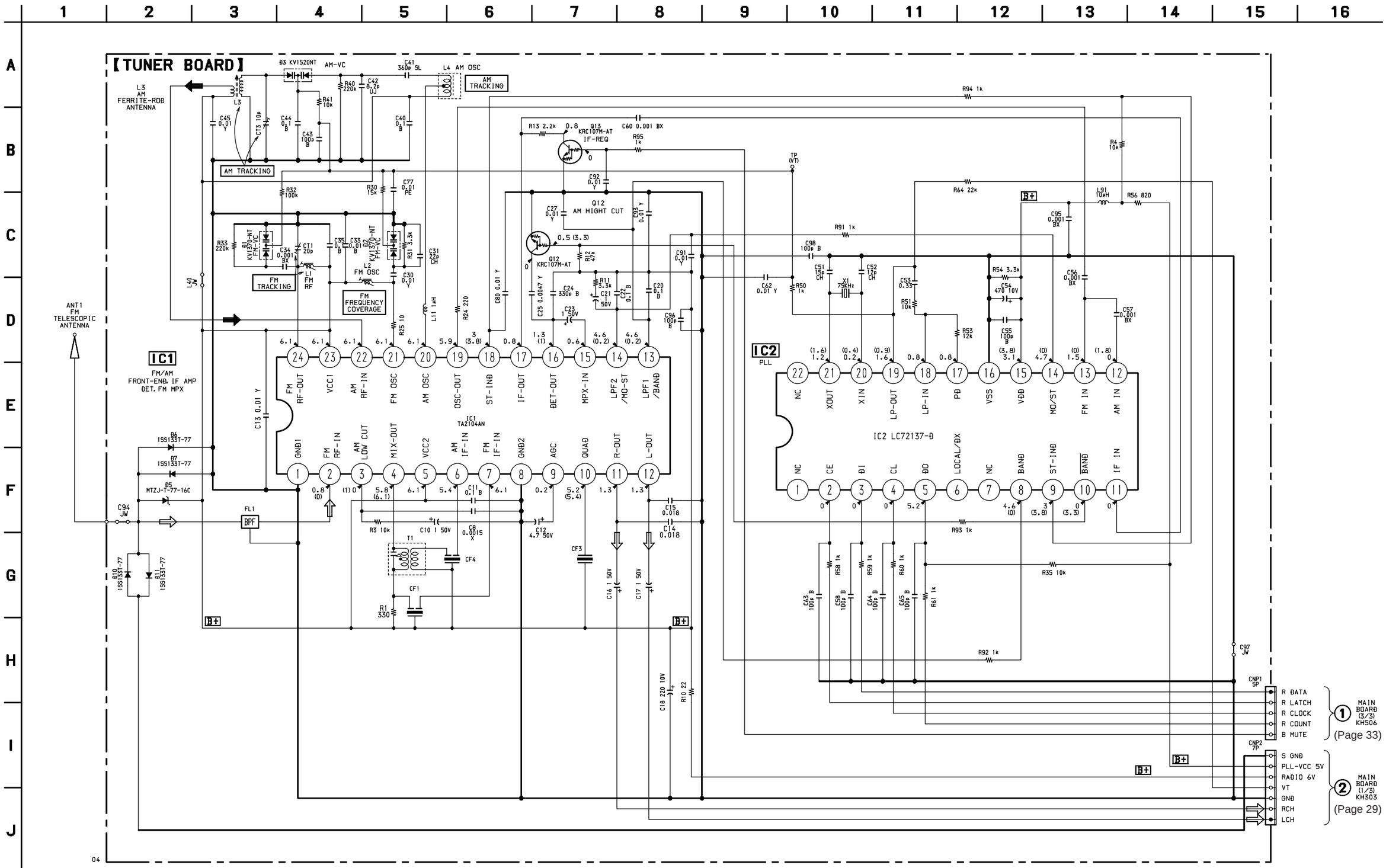


## 6-4. BLOCK DIAGRAM — MAIN SECTION —




- Signal path
  - : FM
  - : AM
  - : TAPE PLAY
  - : TAPE REC
  - : CD
- R-ch : same as L-ch.

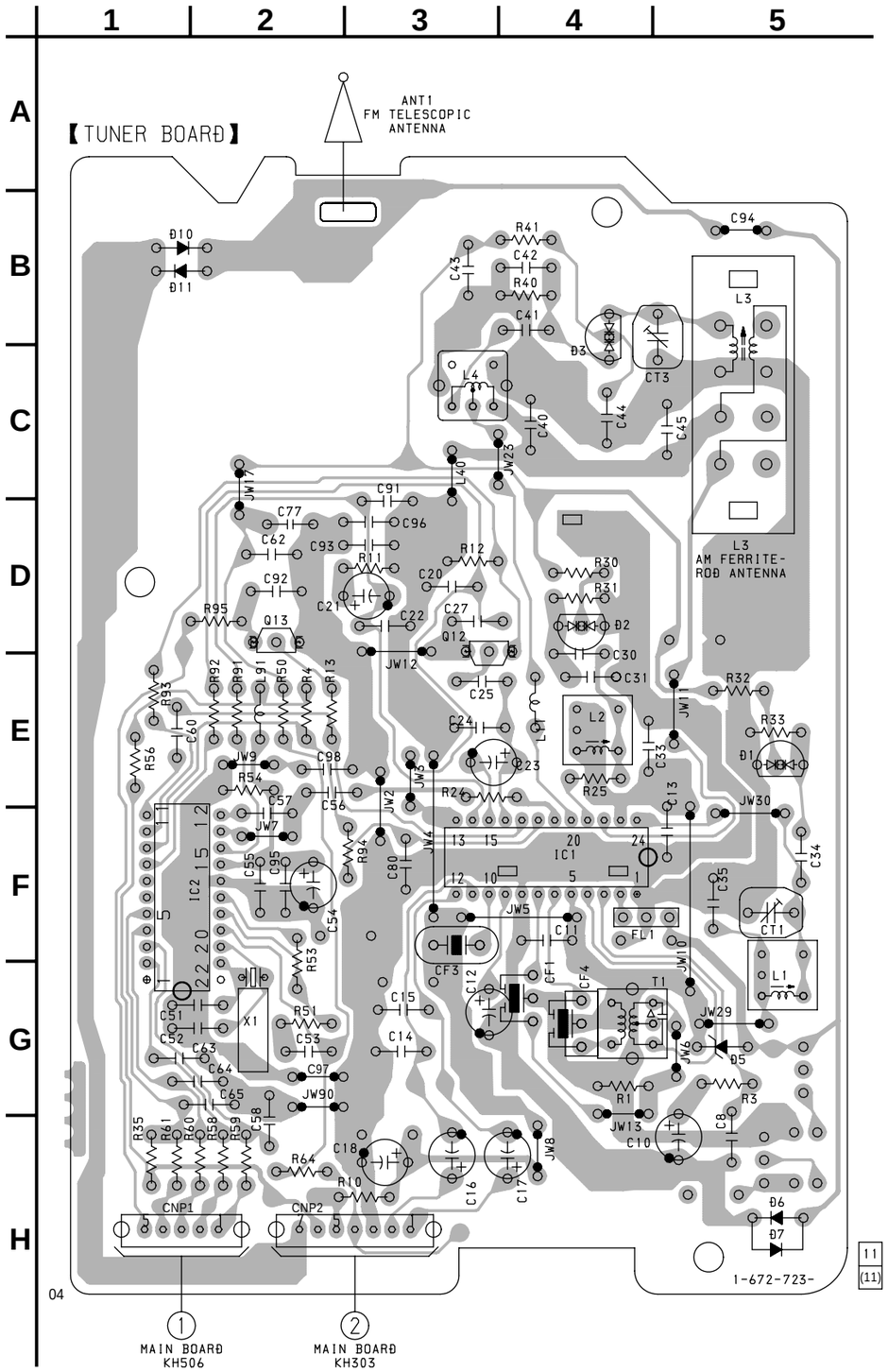
## 6-5. SCHEMATIC DIAGRAM — TUNER SECTION — • Refer to page 41 for IC Block Diagrams.




**Note:**

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 9 V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM

## 6-6. PRINTED WIRING BOARD — TUNER SECTION — • Refer to page 17 for Circuit Boards Location.

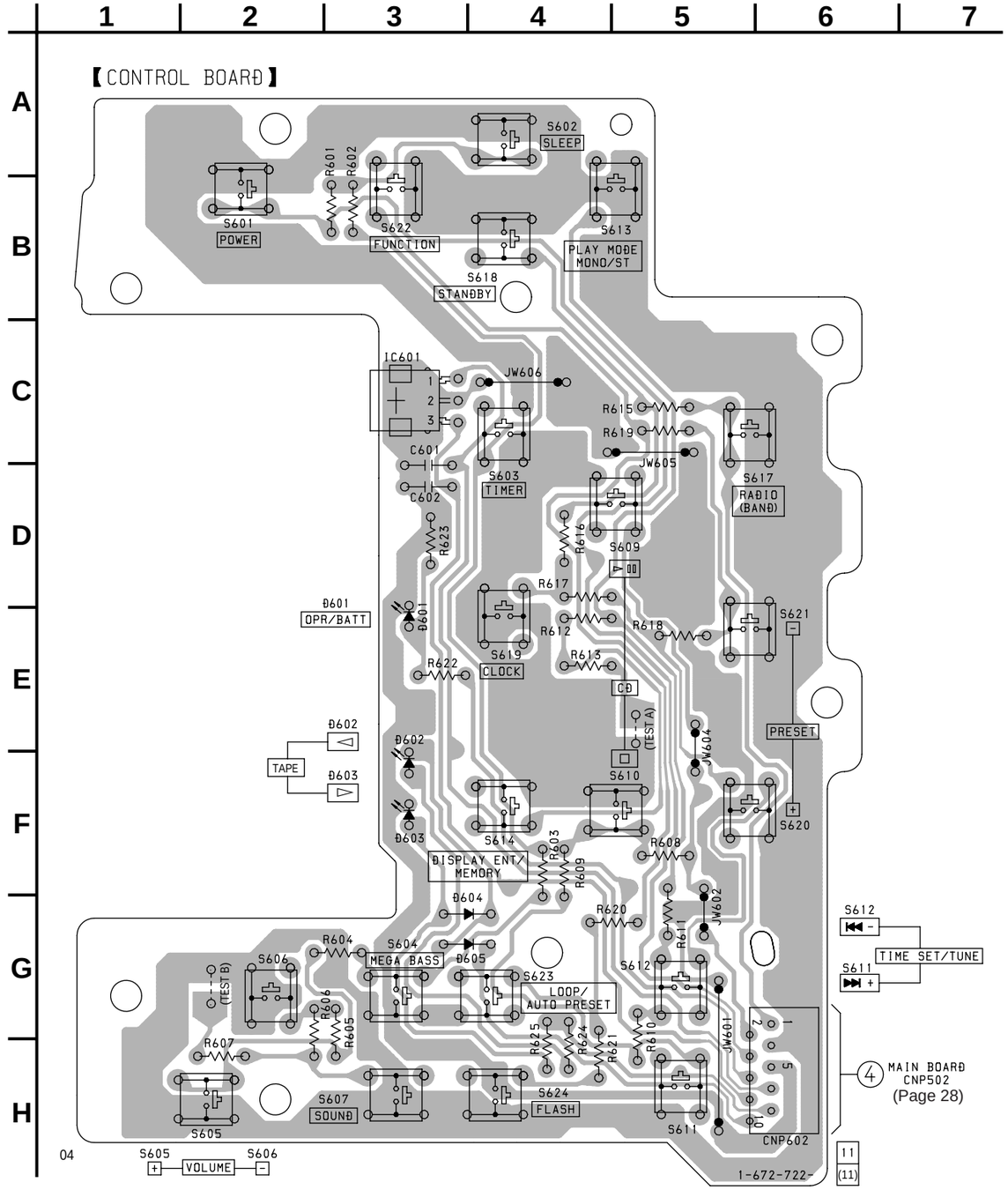



• **Semiconductor Location (tuner board)**

| Ref. No. | Location |
|---|---|
| D1 | E-5 |
| D2 | D-4 |
| D3 | B-4 |
| D5 | G-5 |
| D6 | H-5 |
| D7 | H-5 |
| D10 | B-1 |
| D11 | B-1 |
| IC1 | F-4 |
| IC2 | F-1 |
| Q12 | D-3 |
| Q13 | D-2 |

**Note:**
- ——o—— : parts extracted from the component side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

## 6-7. PRINTED WIRING BOARD — CONTROL SECTION — • Refer to page 17 for Circuit Boards Location.

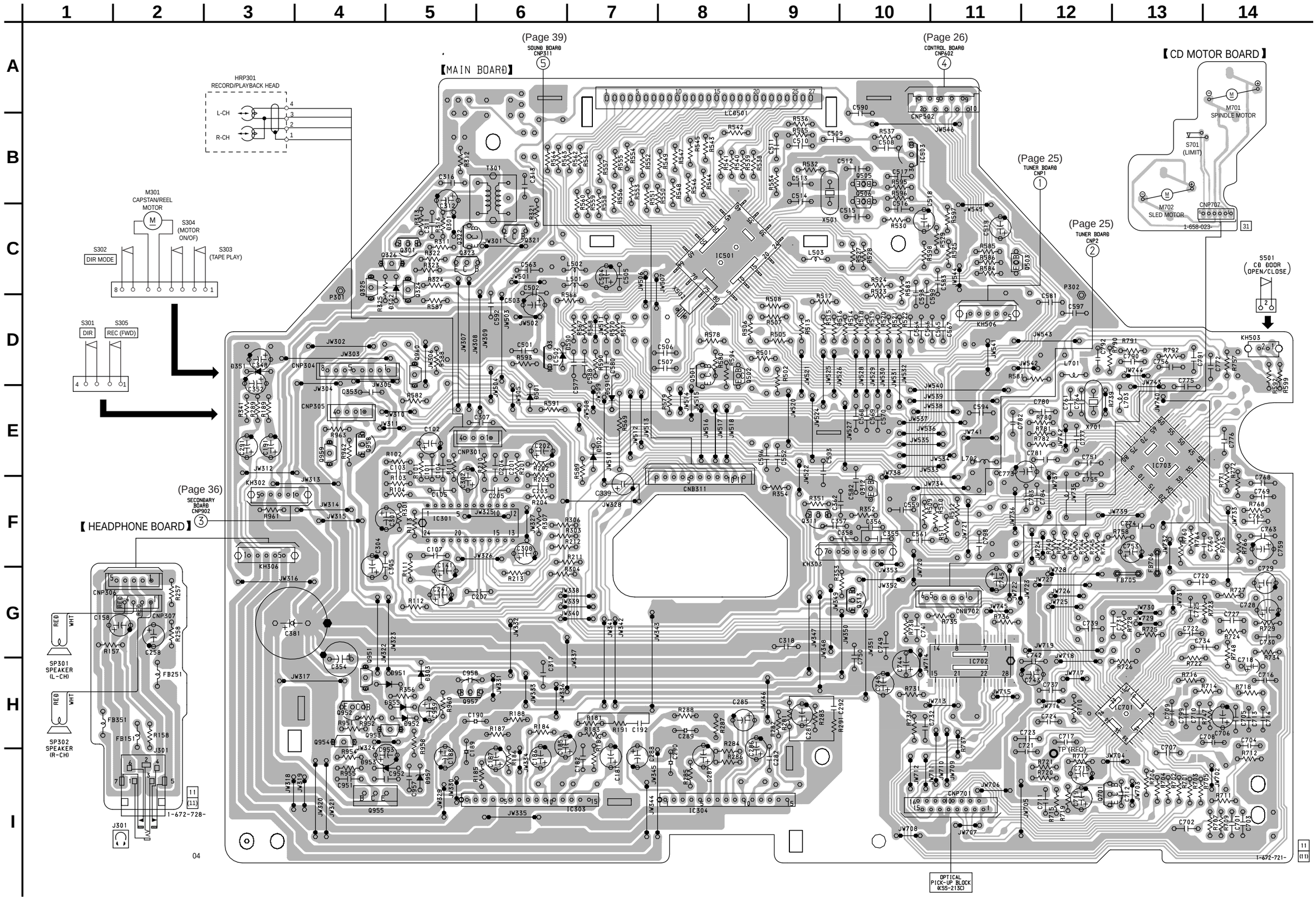



• **Semiconductor Location (control board)**

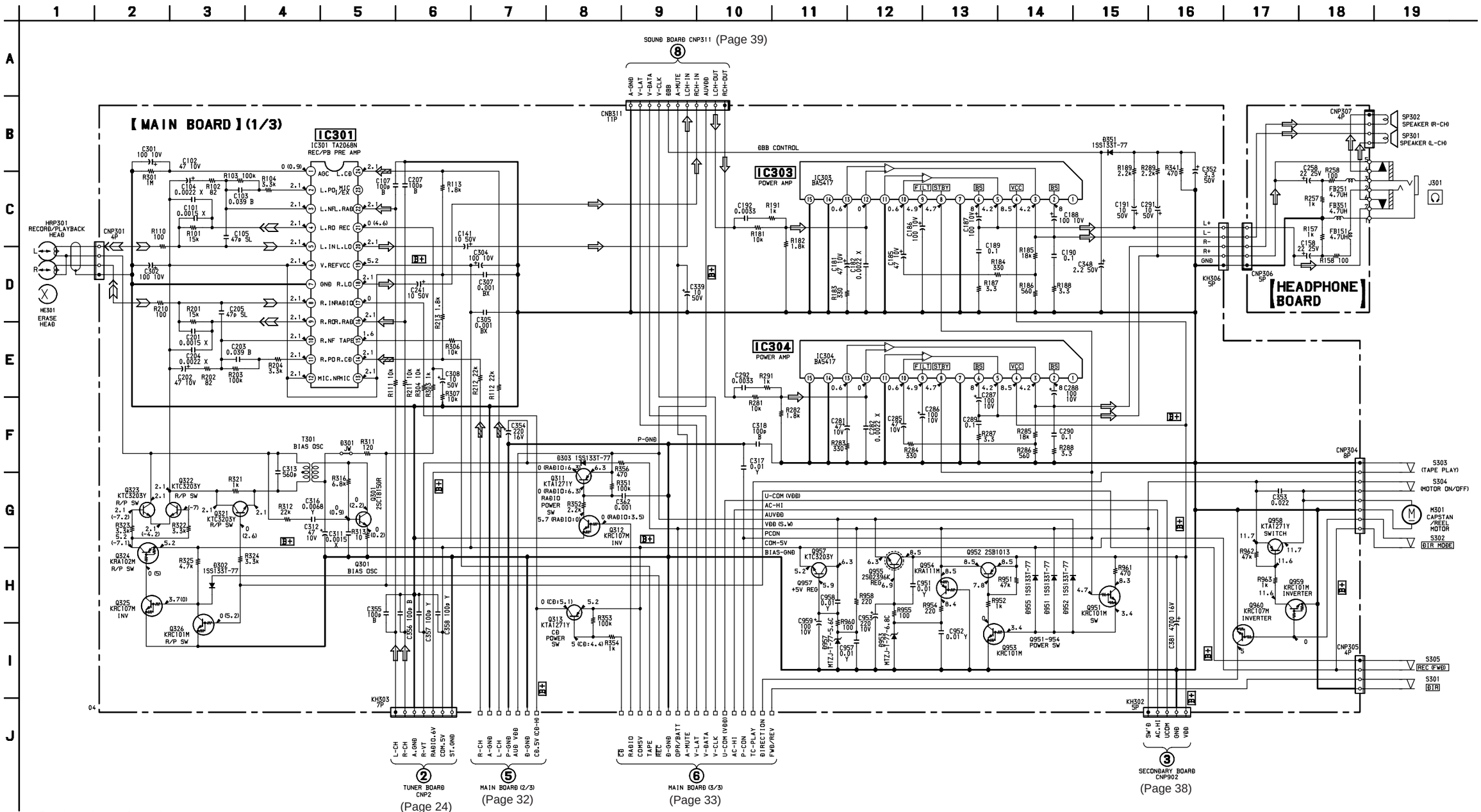
| Ref. No. | Location |
|---|---|
| D601 | D-3 |
| D602 | E-3 |
| D603 | F-3 |
| D604 | F-4 |
| D605 | G-4 |
| IC601 | C-3 |

**Note:**
- ——o—— : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

## 6-8. PRINTED WIRING BOARDS — MAIN SECTION — • Refer to page 17 for Circuit Boards Location.



## 6-9. SCHEMATIC DIAGRAM — MAIN SECTION (1/3) — • Refer to page 41 for IC Block Diagrams.




• **Semiconductor Location**

| Ref. No. | Location | Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|---|---|
| D302 | C-5 | IC501 | C-8 | Q326 | C-5 |
| D303 | H-5 | IC502 | D-6 | Q501 | D-8 |
| D351 | D-3 | IC503 | B-10 | Q502 | D-8 |
| D501 | E-6 | IC701 | H-13 | Q503 | C-12 |
| D502 | E-7 | IC702 | H-11 | Q505 | B-10 |
| D590 | D-7 | IC703 | E-13 | Q506 | B-10 |
| D591 | E-7 | | | Q701 | I-12 |
| D951 | H-5 | Q301 | C-5 | Q951 | G-4 |
| D952 | H-5 | Q311 | F-9 | Q952 | H-4 |
| D953 | I-4 | Q312 | F-10 | Q953 | I-4 |
| D955 | H-5 | Q313 | G-10 | Q954 | H-4 |
| D957 | I-5 | Q321 | C-6 | Q955 | I-4 |
| | | Q322 | C-5 | Q957 | I-5 |
| IC301 | F-5 | Q323 | C-5 | Q958 | E-4 |
| IC303 | I-7 | Q324 | C-5 | Q959 | E-4 |
| IC304 | I-8 | Q325 | C-4 | Q960 | D-5 |

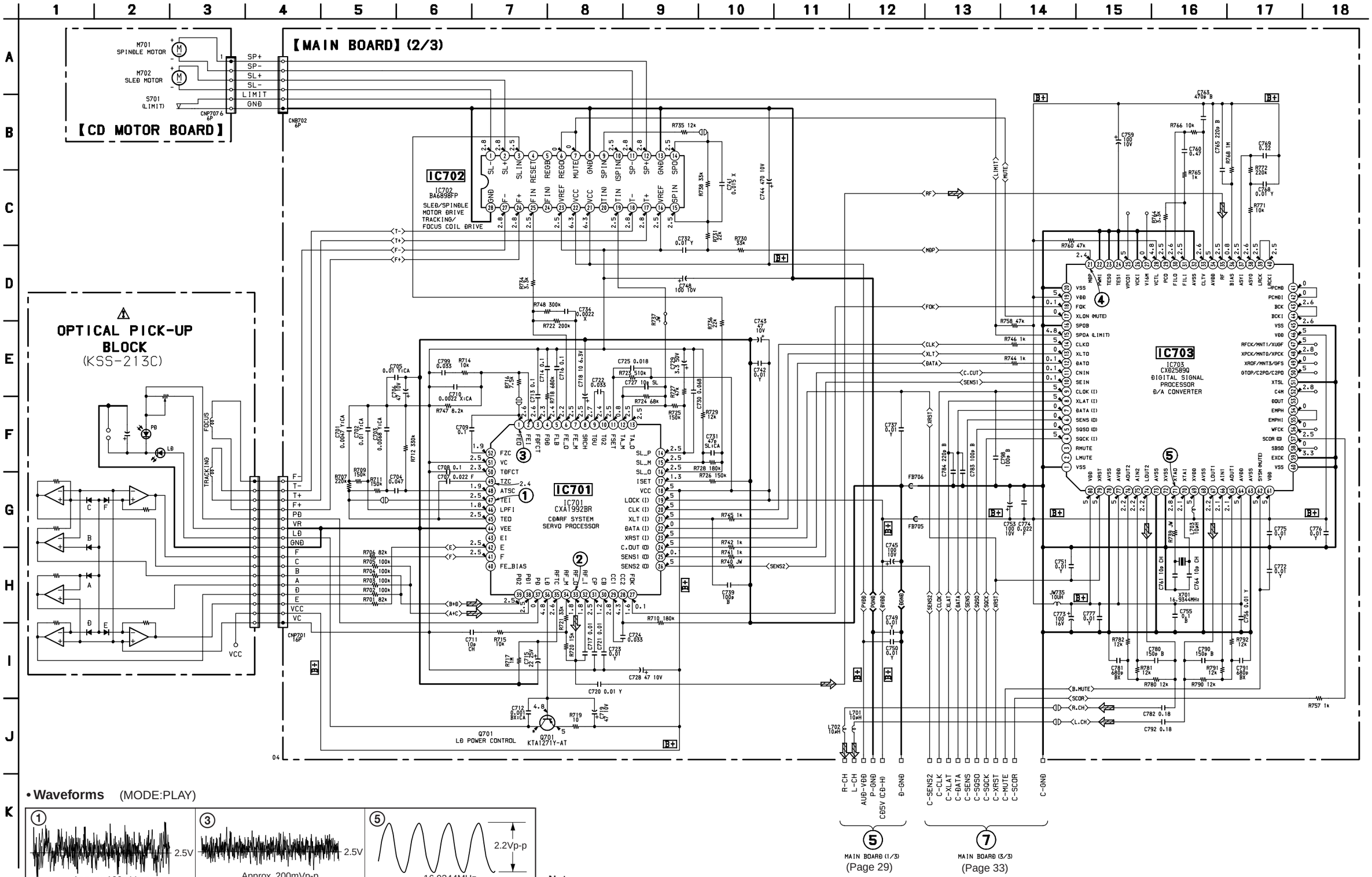
**Note on Printed Wiring Boards:**

- ——o—— : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

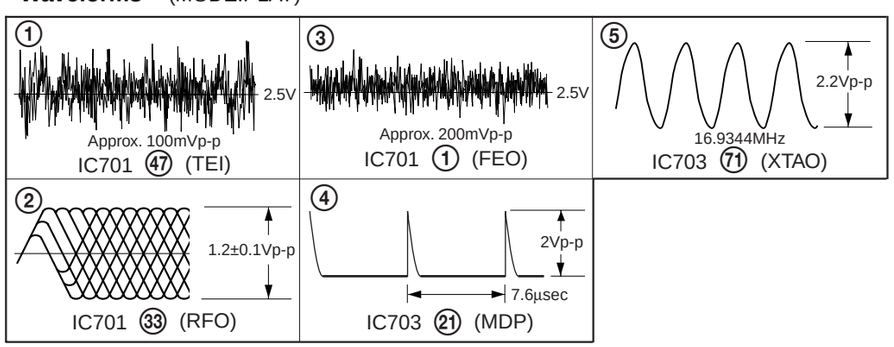
**Note on Schematic Diagram:**

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- [ ] : panel designation.
- B+ : B+ Line.
- Power voltage is dc 9 V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : TAPE PB
  ( ) : TAPE REC
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⇨ : TAPE PB
  ⇨ : TAPE REC

## 6-10. SCHEMATIC DIAGRAM — MAIN SECTION (2/3) — • Refer to page 42 for IC Block Diagrams.




• **Waveforms** (MODE:PLAY)

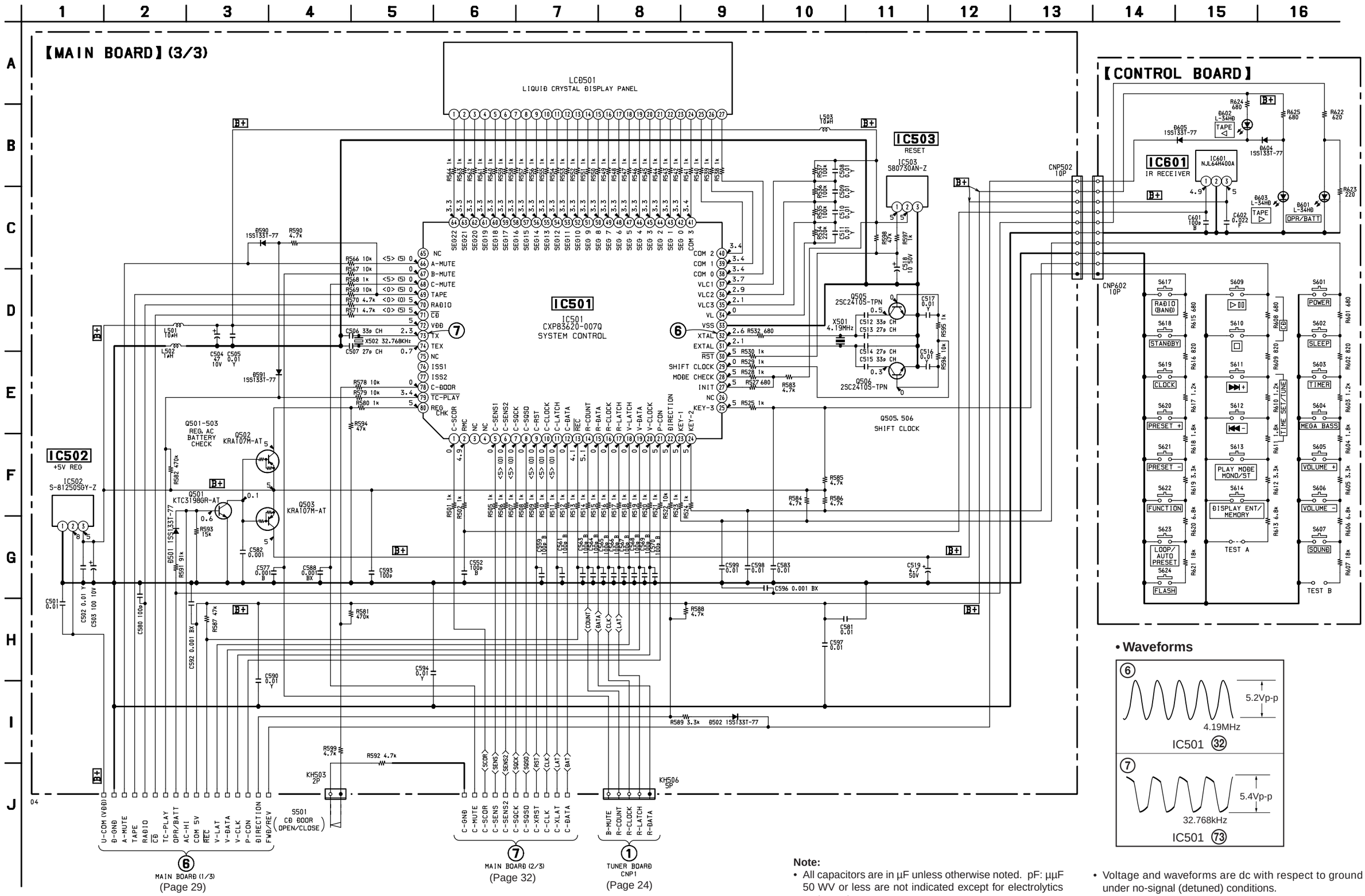



**Note:**
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- Power voltage is dc 9 V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD STOP
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

## 6-11. SCHEMATIC DIAGRAM — MAIN SECTION (3/3) —




• **Waveforms**




**Note:**

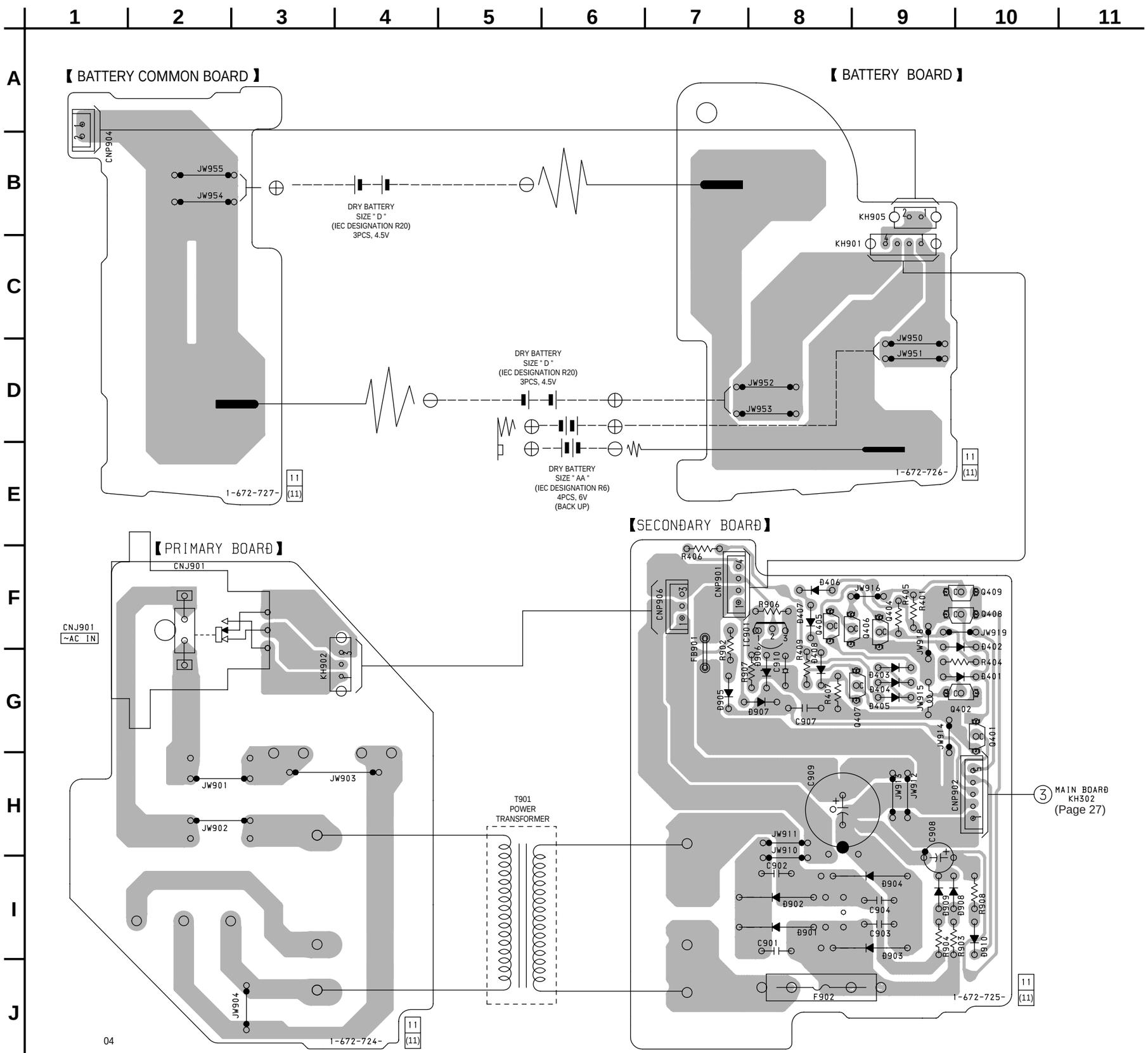
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- B+ : B+ Line.
- Power voltage is dc 9 V and fed with regulated dc power supply from battery terminal.

- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : TAPE PLAY
  < > : CD STOP
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.

## 6-12. PRINTED WIRING BOARDS — POWER SUPPLY SECTION — • Refer to page 17 for Circuit Boards Location.

• **Semiconductor Location**

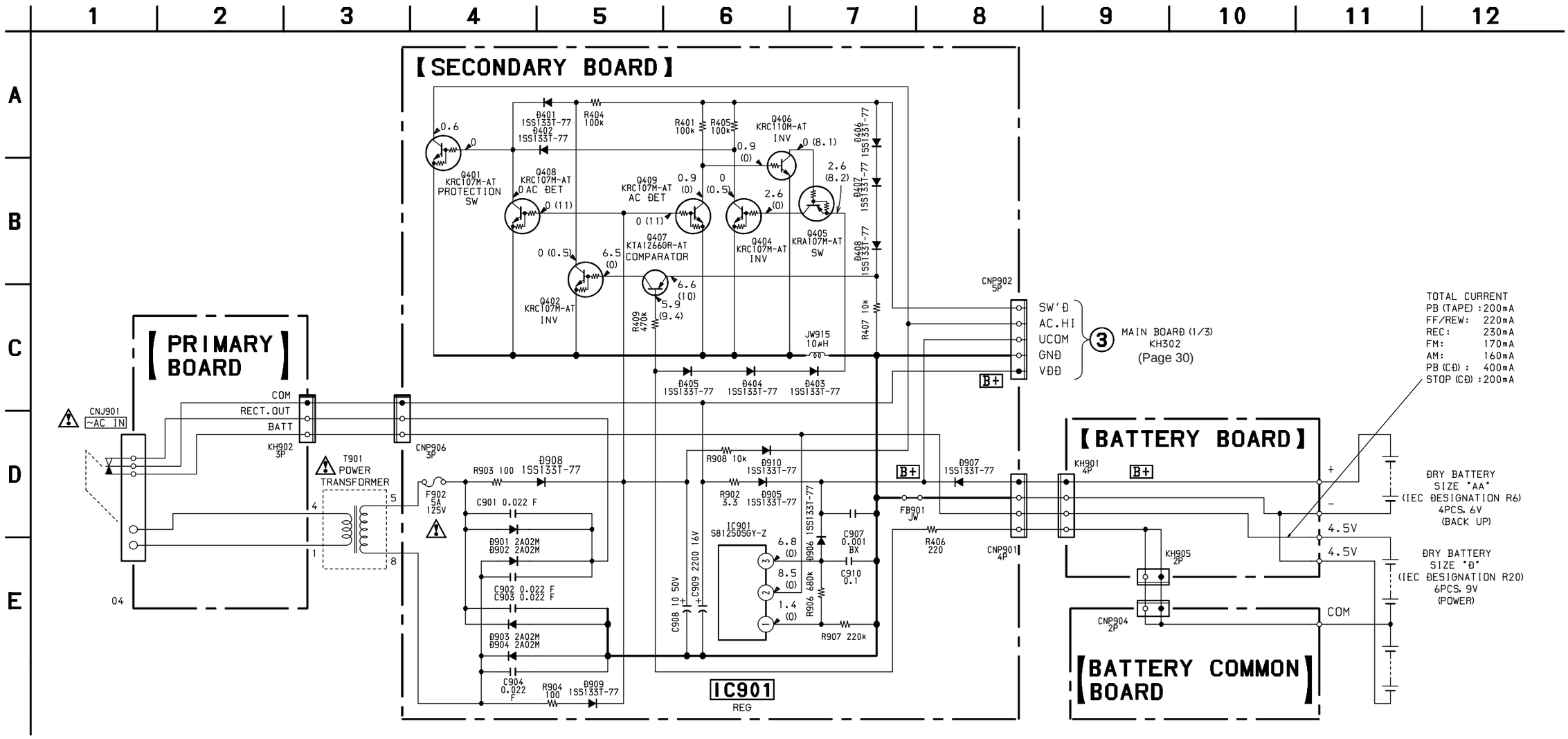
| Ref. No. | Location |
|---|---|
| D401 | G-10 |
| D402 | F-10 |
| D403 | G-9 |
| D404 | G-9 |
| D405 | G-9 |
| D406 | F-8 |
| D407 | F-8 |
| D408 | G-8 |
| D901 | I-8 |
| D902 | I-8 |
| D903 | I-9 |
| D904 | I-9 |
| D905 | G-7 |
| D906 | G-8 |
| D907 | G-8 |
| D908 | I-9 |
| D909 | I-9 |
| D910 | I-10 |
| IC901 | F-8 |
| Q401 | G-10 |
| Q402 | G-10 |
| Q404 | F-9 |
| Q405 | F-8 |
| Q406 | F-9 |
| Q407 | G-9 |
| Q408 | F-10 |
| Q409 | F-10 |




**Note:**

- ○——— : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

## 6-13. SCHEMATIC DIAGRAM — POWER SUPPLY SECTION —



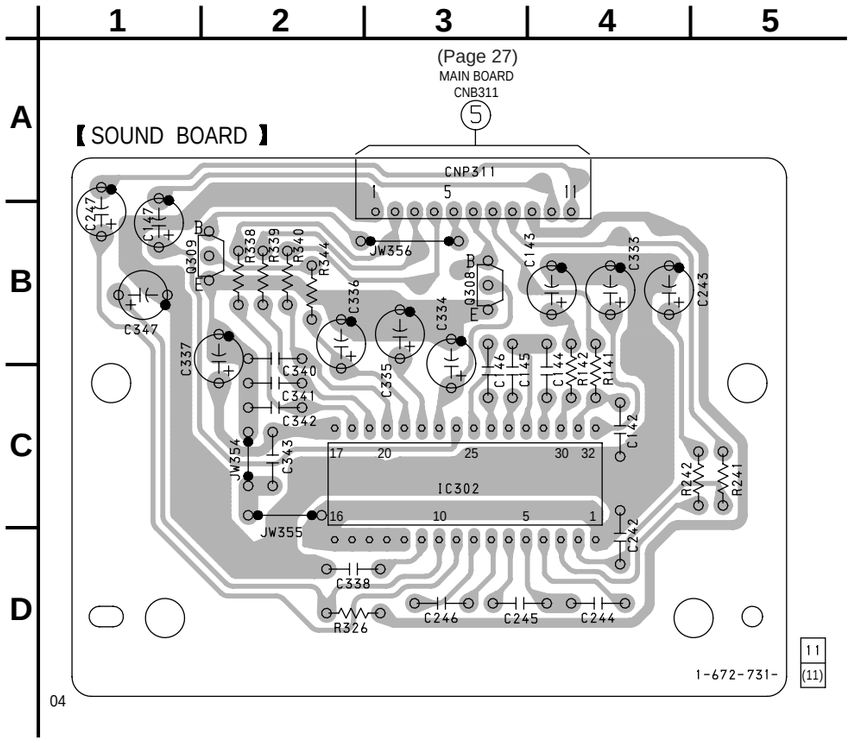

**Note:**

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- B+ : B+ Line.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- Total current is measured with no cassette installed.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : DC 9V from battery terminal.
  ( ) : AC 120V from AC inlet.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.

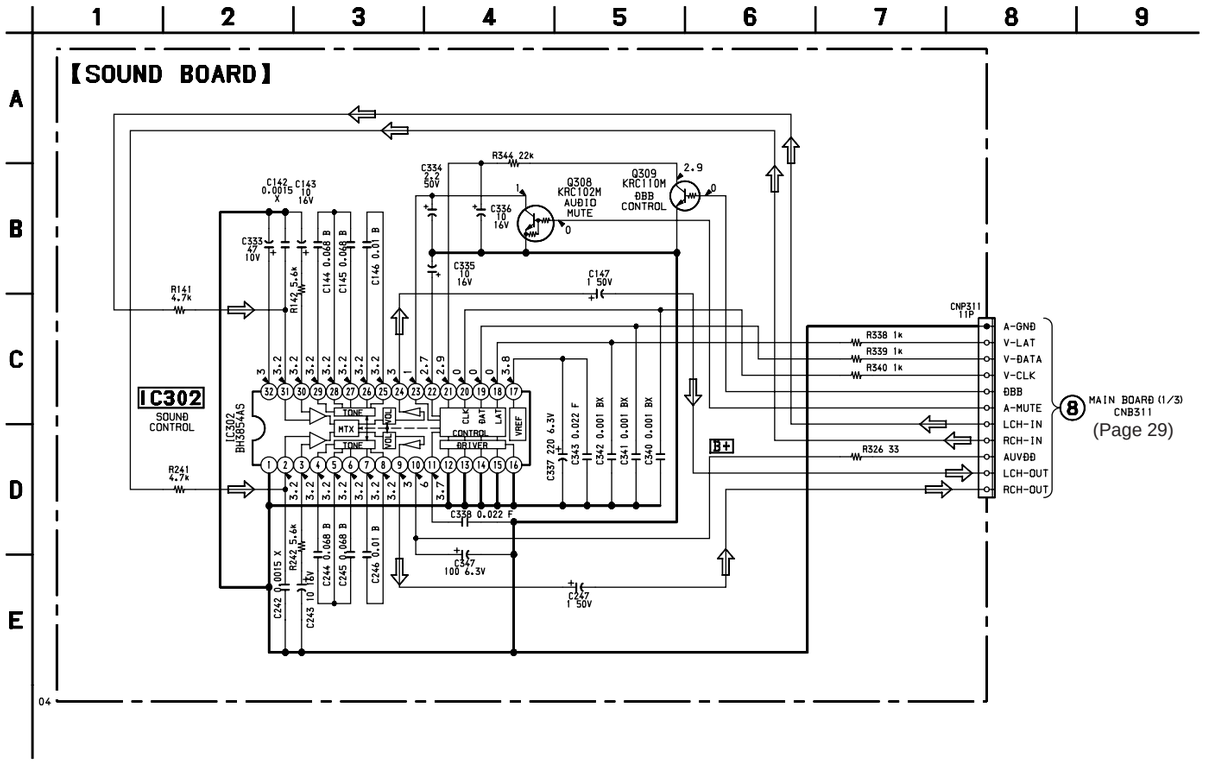
## 6-14. PRINTED WIRING BOARD — SOUND SECTION — • Refer to page 17 for Circuit Boards Location.




**Note on Printed Wiring Boards:**

- ○——— : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

## 6-15. SCHEMATIC DIAGRAM — SOUND SECTION —

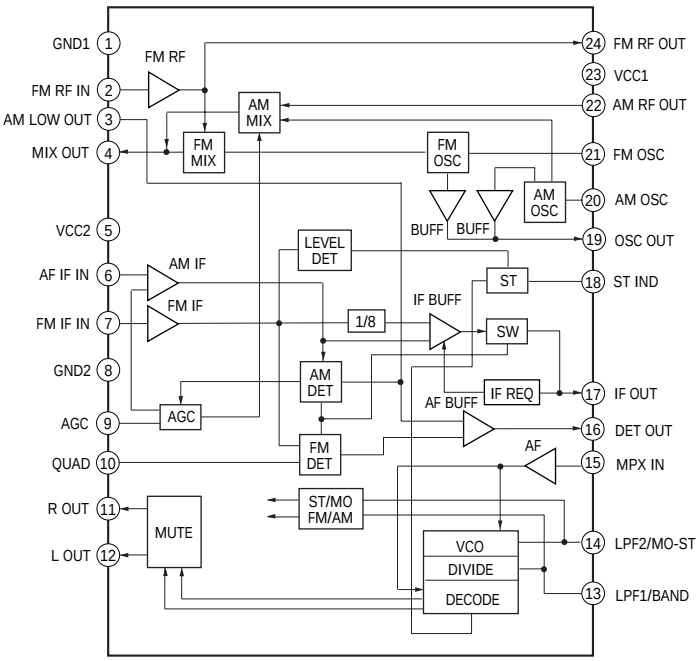



**Note on Schematic Diagram:**

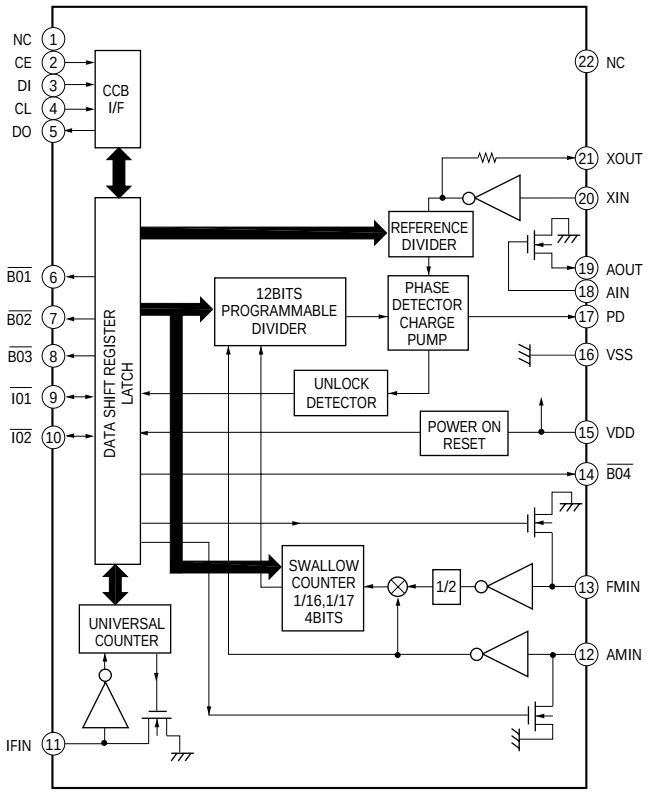
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- ▭ : panel designation.
- B + : B+ Line.
- Power voltage is dc 9 V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

• **IC Block Diagrams**

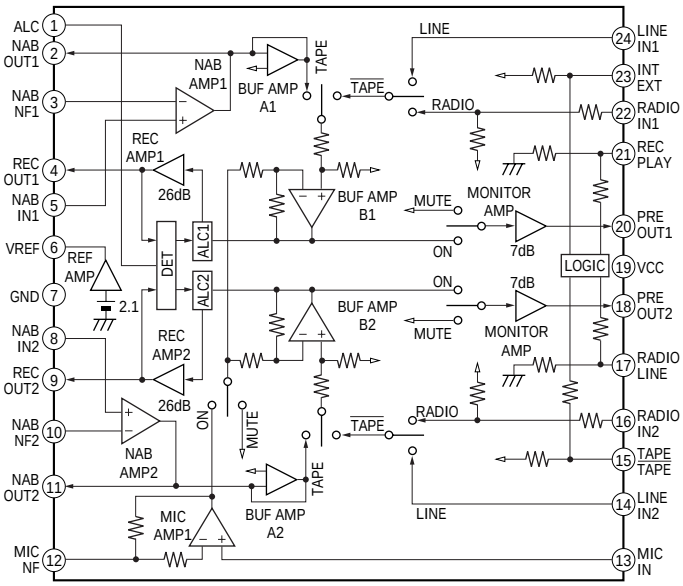
**IC1 TA2104AN**



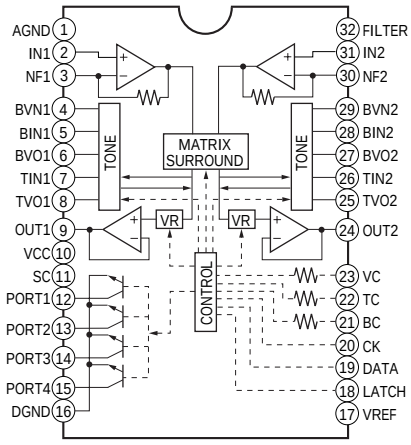

**IC2 LC72137-D**



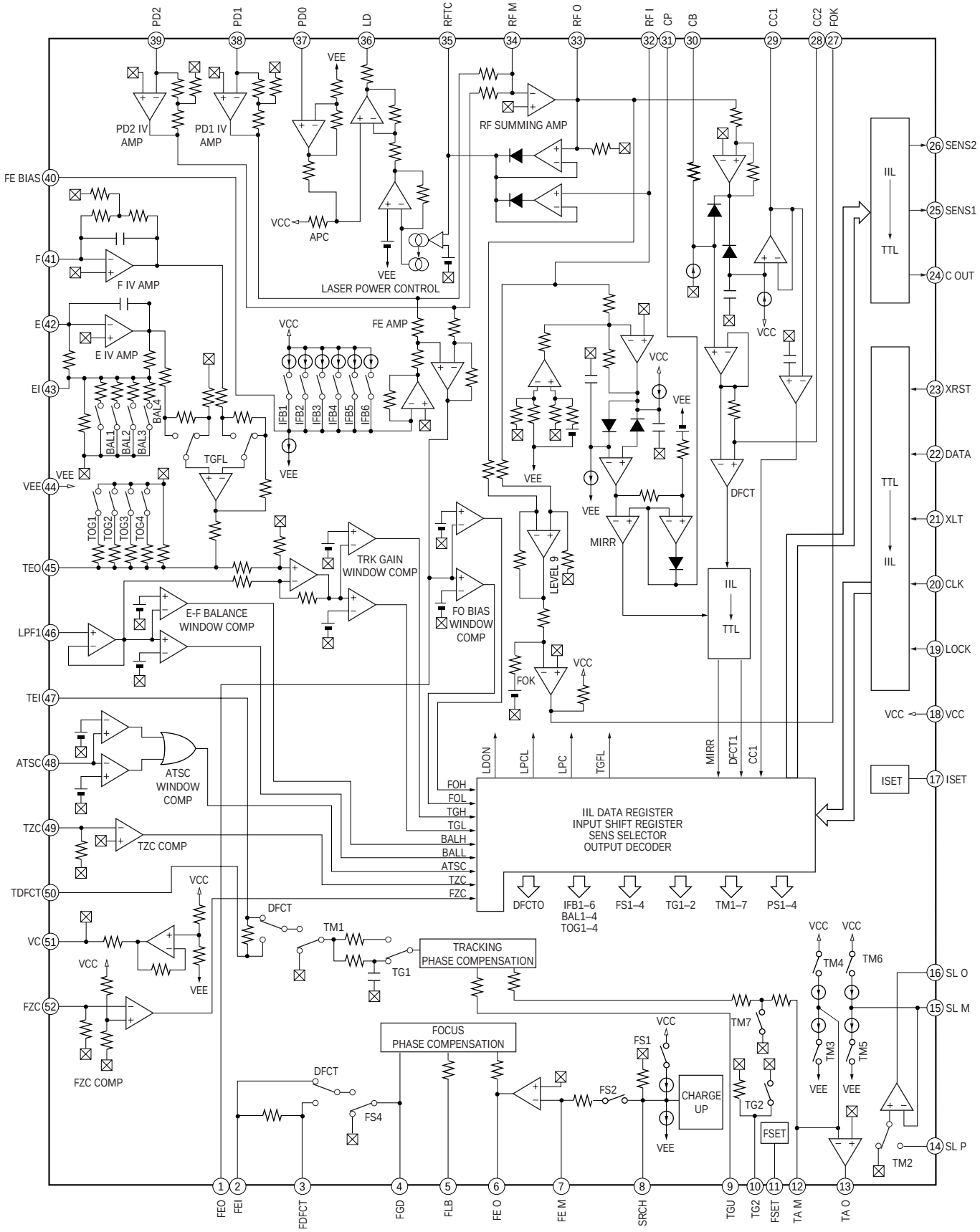

**IC301 TA2068N**



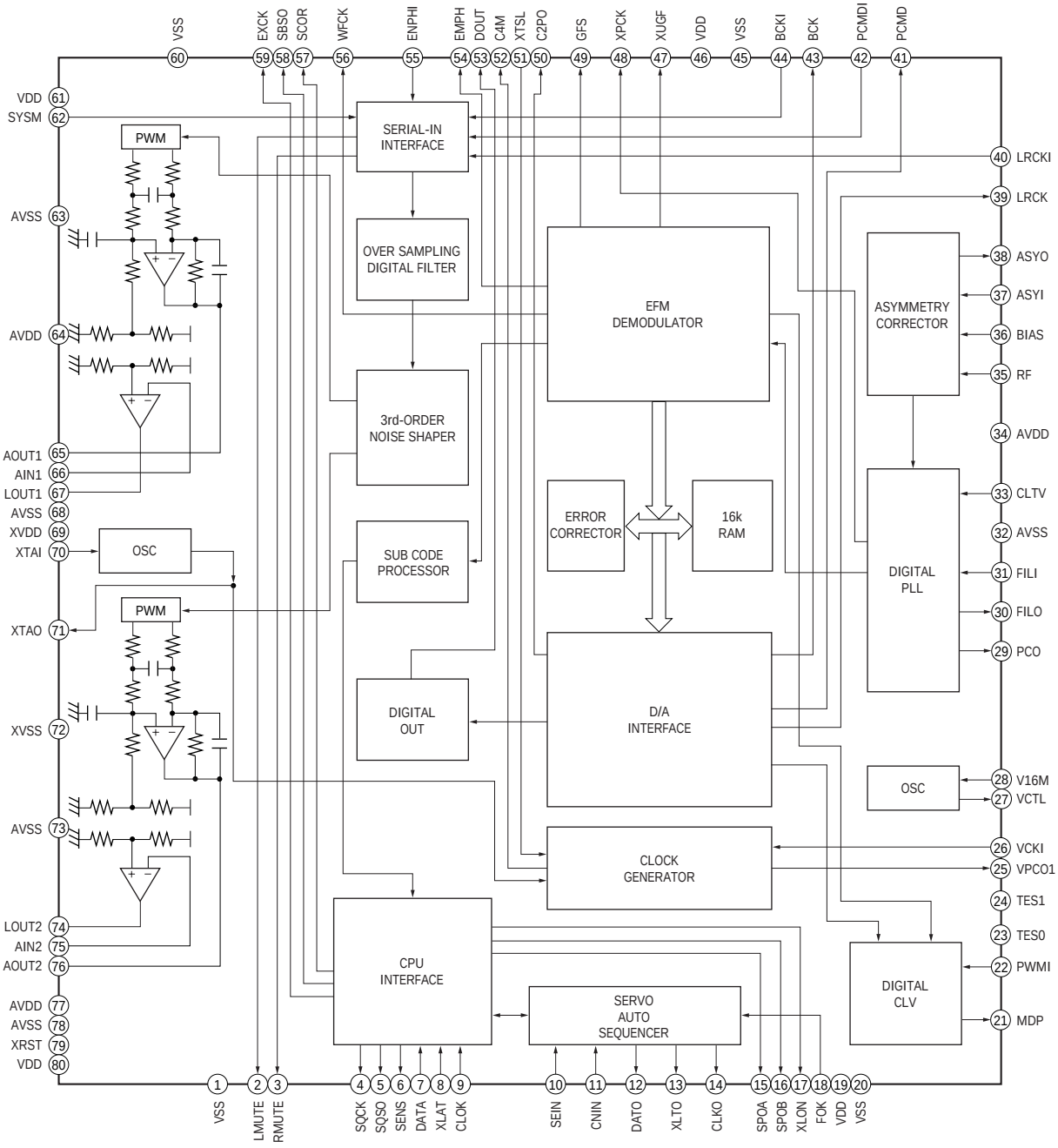

**IC302 BH3854AS**



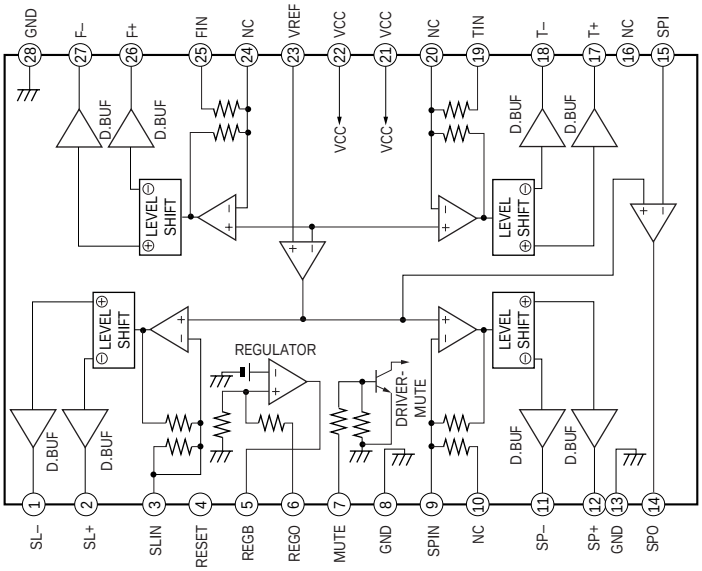
**IC701 CXA1992BR**



**IC703 CXD2589Q**




**IC702 BA6898FP**



# SECTION 7
# EXPLODED VIEWS

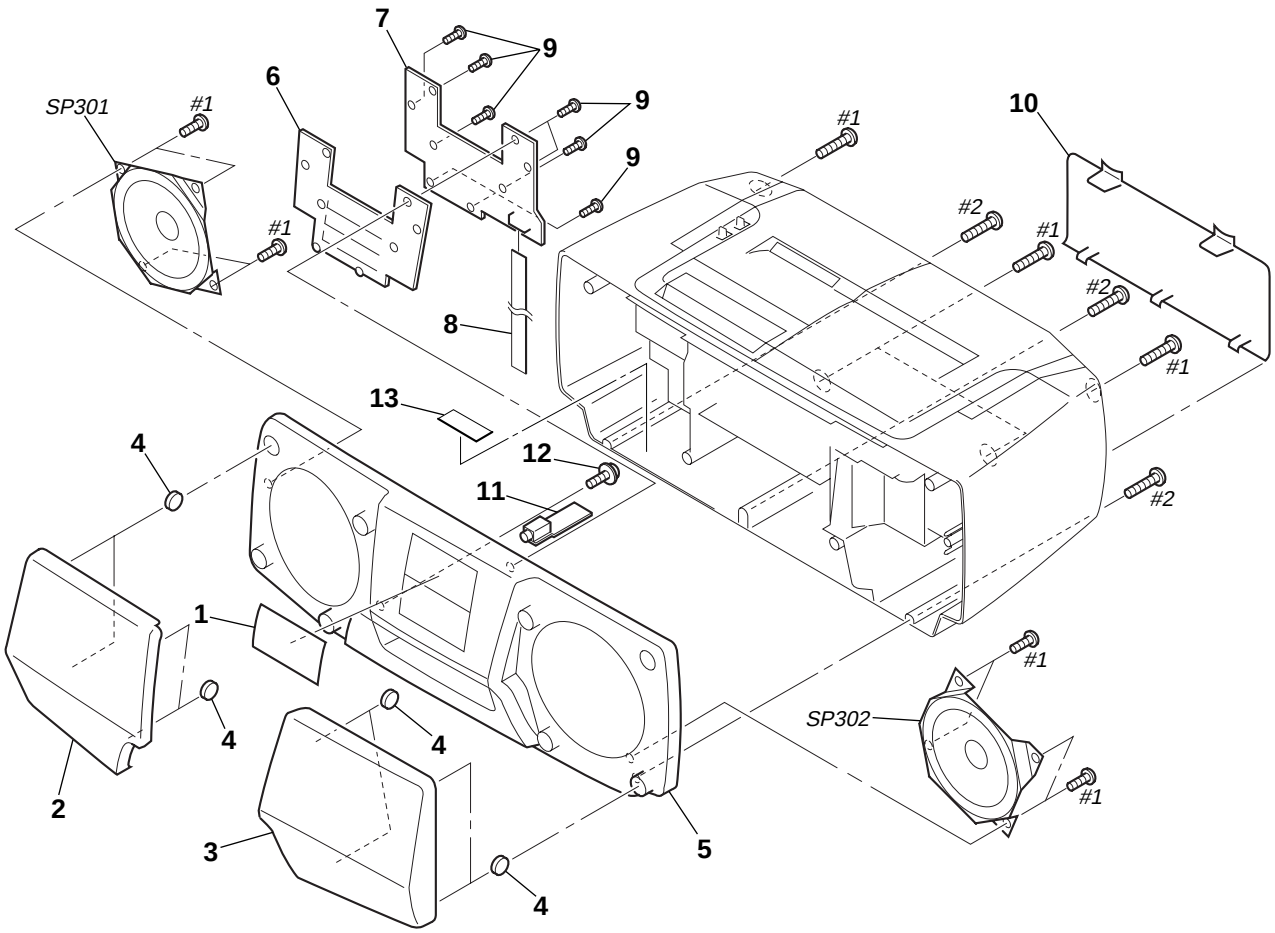
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color

- Accessories and packing materials and hardware (# mark) list are given in the last of this parts list.

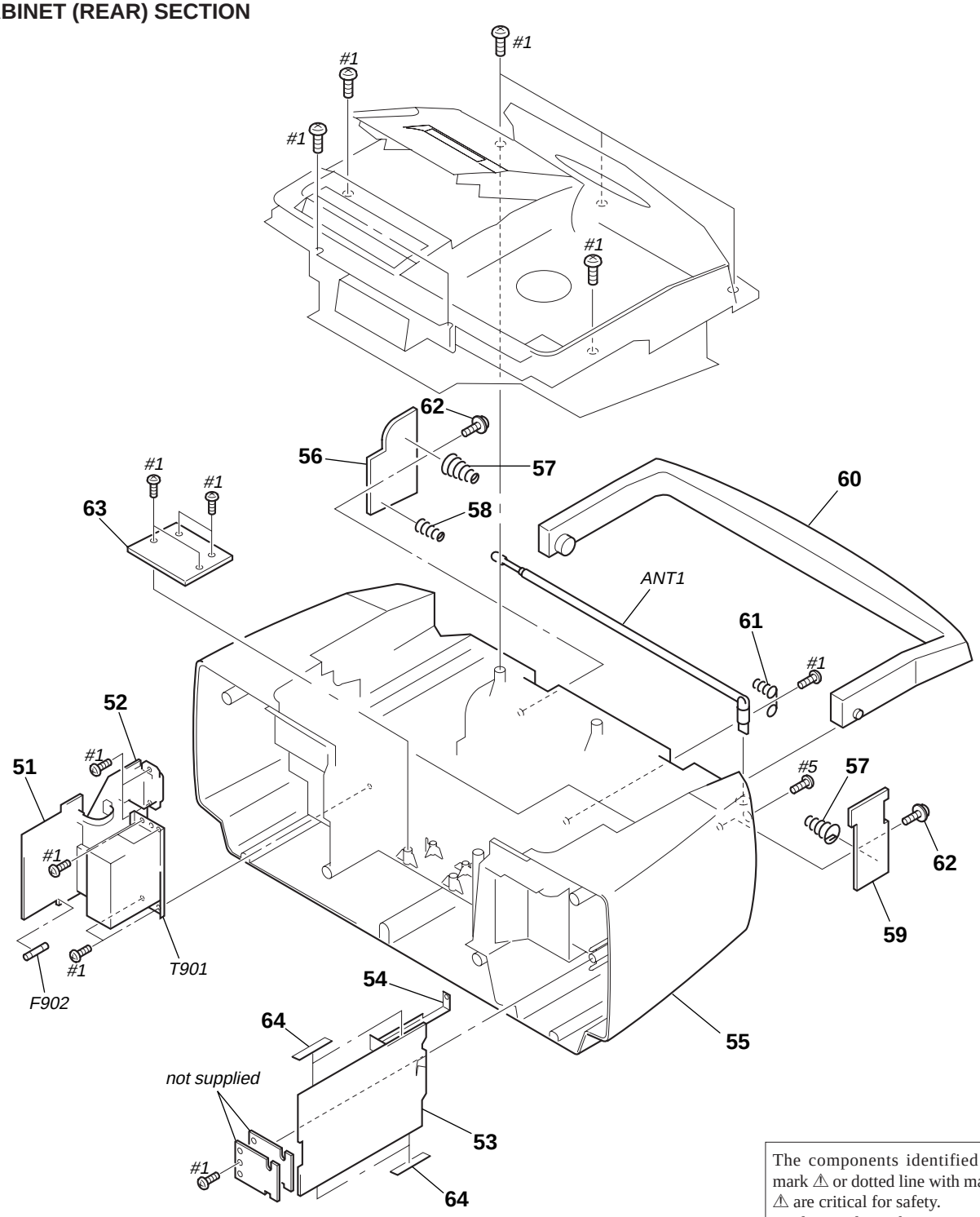
The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

## 7-1. CABINET (FRONT) SECTION




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | 3-032-033-31 | WINDOW (LCD) | |
| 2 | X-3376-915-1 | GRILLE ASSY (L), SPEAKER | |
| 3 | X-3376-918-1 | GRILLE ASSY (R), SPEAKER | |
| 4 | 4-212-330-01 | BUSHING | |
| 5 | X-3377-364-1 | CABINET (FRONT) SUB ASSY | |
| 6 | 3-032-032-01 | BUTTON (MAIN) | |
| * 7 | A-3323-232-A | CONTROL BOARD, COMPLETE | |
| 8 | 1-790-379-11 | WIRE (FLAT TYPE) (10 CORE) | |
| 9 | 4-951-620-11 | SCREW (2.6X10), +BVTP | |
| 10 | 3-926-244-91 | LID, BATTERY CASE | |
| * 11 | 1-672-728-11 | HEADPHONE BOARD | |
| 12 | 3-921-725-01 | SCREW (2.6X10), +PWH | |
| * 13 | 3-703-044-26 | LABEL, CAUTION | |
| SP301 | 1-529-185-11 | SPEAKER (10cm) (L-CH) | |
| SP302 | 1-529-185-11 | SPEAKER (10cm) (R-CH) | |

## 7-2. CABINET (REAR) SECTION

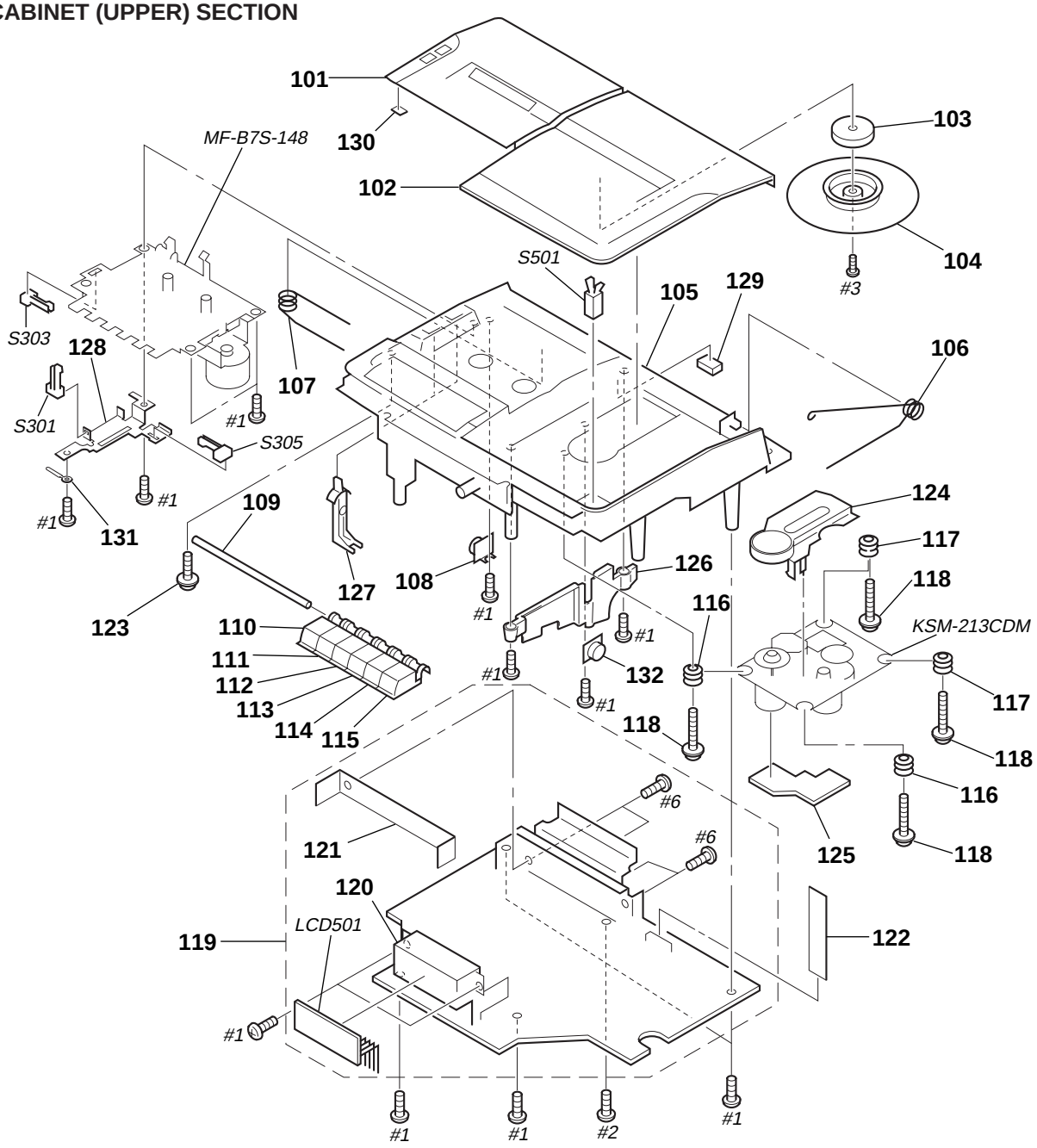



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 51 | A-3322-028-A | SECONDARY BOARD, COMPLETE | |
| * 52 | 1-672-724-11 | PRIMARY BOARD | |
| * 53 | A-3322-035-A | TUNER BOARD, COMPLETE | |
| 54 | 3-032-038-01 | TERMINAL, ANTENNA | |
| 55 | 3-032-025-61 | CABINET (REAR) | |
| * 56 | 1-672-726-11 | BATTERY BOARD | |
| 57 | 3-028-154-01 | TERMINAL (-), BATTERY | |
| 58 | 3-028-156-01 | TERMINAL (S) (-), BATTERY | |
| * 59 | 1-672-727-11 | BATTERY COMMON BOARD | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 60 | 3-032-029-01 | HANDLE | |
| 61 | 3-028-157-01 | TERMINAL (S) (+.-), BATTERY | |
| 62 | 4-960-167-01 | SCREW (3X8) (DIA. 10), +WH | |
| * 63 | A-3322-036-A | SOUND BOARD, COMPLETE | |
| 64 | 3-831-441-99 | CUSHION, SPEAKER | |
| ANT1 | 1-501-891-11 | ANTENNA, TELESCOPIC | |
| ⚠F902 | 1-576-109-11 | FUSE (5A/125V) | |
| ⚠T901 | 1-433-638-21 | TRANSFORMER, POWER | |

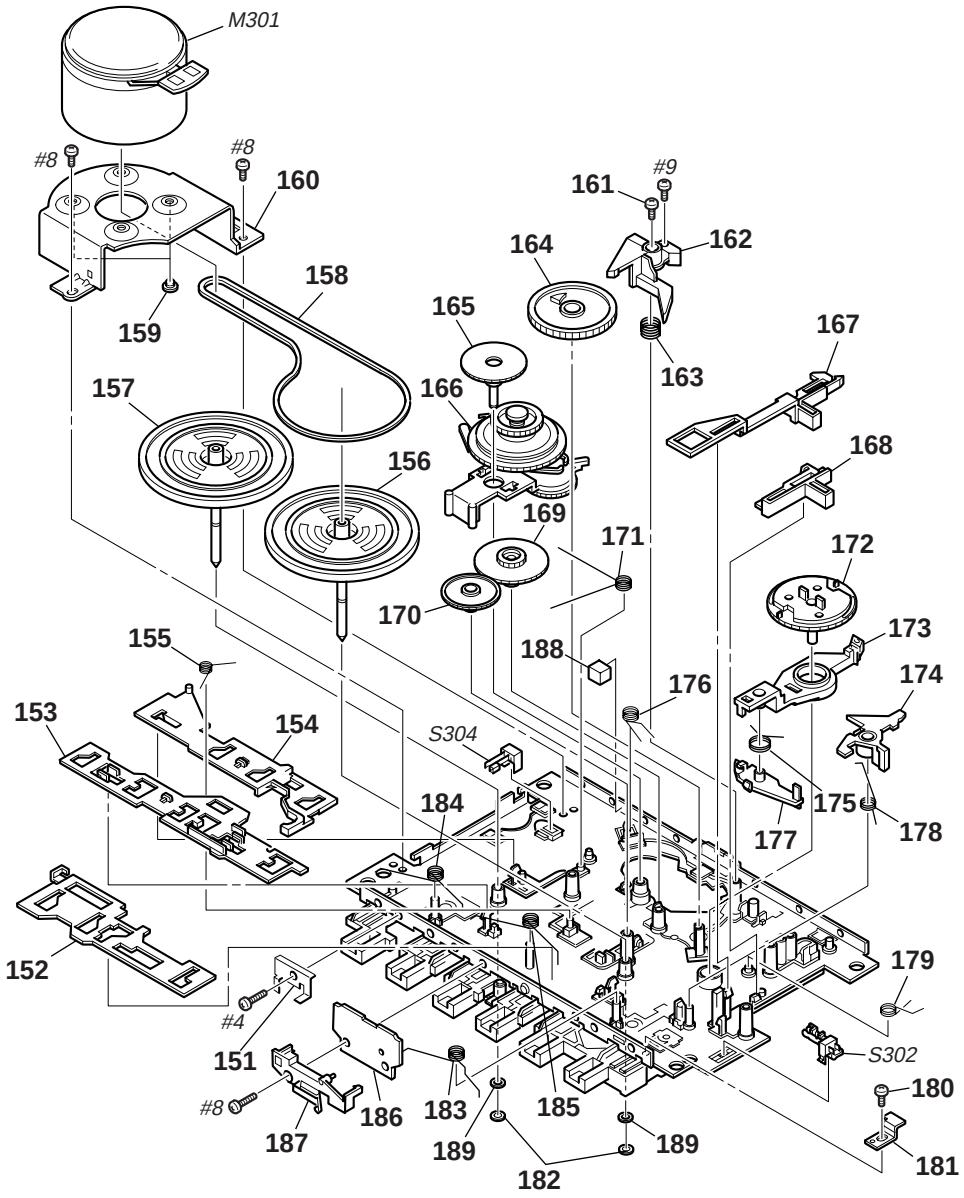
## 7-3. CABINET (UPPER) SECTION




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 101 | A-3328-249-A | HOLDER ASSY, CASSETTE | |
| 102 | 3-032-027-01 | LID (CD) | |
| 103 | 1-452-899-11 | MAGNET | |
| 104 | 3-019-395-01 | PLATE, CHUCKING | |
| 105 | 3-032-026-21 | CABINET (UPPER) | |
| 106 | 3-034-331-01 | SPRING (CD) | |
| 107 | 3-034-332-01 | SPRING (CASSETTE) | |
| 108 | 3-922-112-31 | DAMPER | |
| 109 | 3-031-560-01 | SHAFT (MD) | |
| 110 | 3-032-041-01 | BUTTON (REC) | |
| 111 | 3-032-042-01 | BUTTON (PLAY) | |
| 112 | 3-032-043-01 | BUTTON (REW) | |
| 113 | 3-032-044-01 | BUTTON (FF) | |
| 114 | 3-032-045-01 | BUTTON (STOP) | |
| 115 | 3-032-046-01 | BUTTON (PAUSE) | |
| 116 | 3-910-095-21 | RUBBER, VIBRATION PROOF | |
| 117 | 3-910-095-31 | RUBBER, VIBRATION PROOF | |
| 118 | 3-921-725-01 | SCREW (2.6X10), +PWH | |
| * 119 | A-3322-033-A | MAIN BOARD, COMPLETE | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 120 | 3-032-035-01 | HOLDER (LCD) | |
| 121 | 3-034-118-01 | HOLDER (IC) | |
| 122 | 1-777-955-11 | WIRE (FLAT TYPE) (16 CORE) | |
| 123 | 4-960-167-01 | SCREW (3X8) (DIA. 10), +WH | |
| 124 | 3-923-736-01 | COVER, CD | |
| 125 | 1-658-023-31 | CD MOTOR BOARD | |
| 126 | 3-035-372-01 | PLATE, HEAT RESISTING | |
| 127 | 3-032-096-01 | LEVER (DIR) | |
| 128 | 3-032-036-01 | CHASSIS (LEAF) | |
| 129 | 3-015-345-21 | CUSHION | |
| 130 | 3-831-441-11 | CUSHION (B) | |
| 131 | 3-703-150-11 | CLAMP | |
| 132 | 3-922-112-41 | DAMPER | |
| LCD501 | 1-803-460-11 | DISPLAY PANEL, LIQUID CRYSTAL | |
| S301 | 1-571-556-11 | SWITCH, LEAF (DIR) | |
| S303 | 1-571-556-11 | SWITCH, LEAF (TAPE PLAY) | |
| S305 | 1-692-302-11 | SWITCH, LEAF (REC (FWD)) | |
| S501 | 1-692-960-11 | SWITCH, PUSH (1 KEY) (CD DOOR OPEN/CLOSE) | |

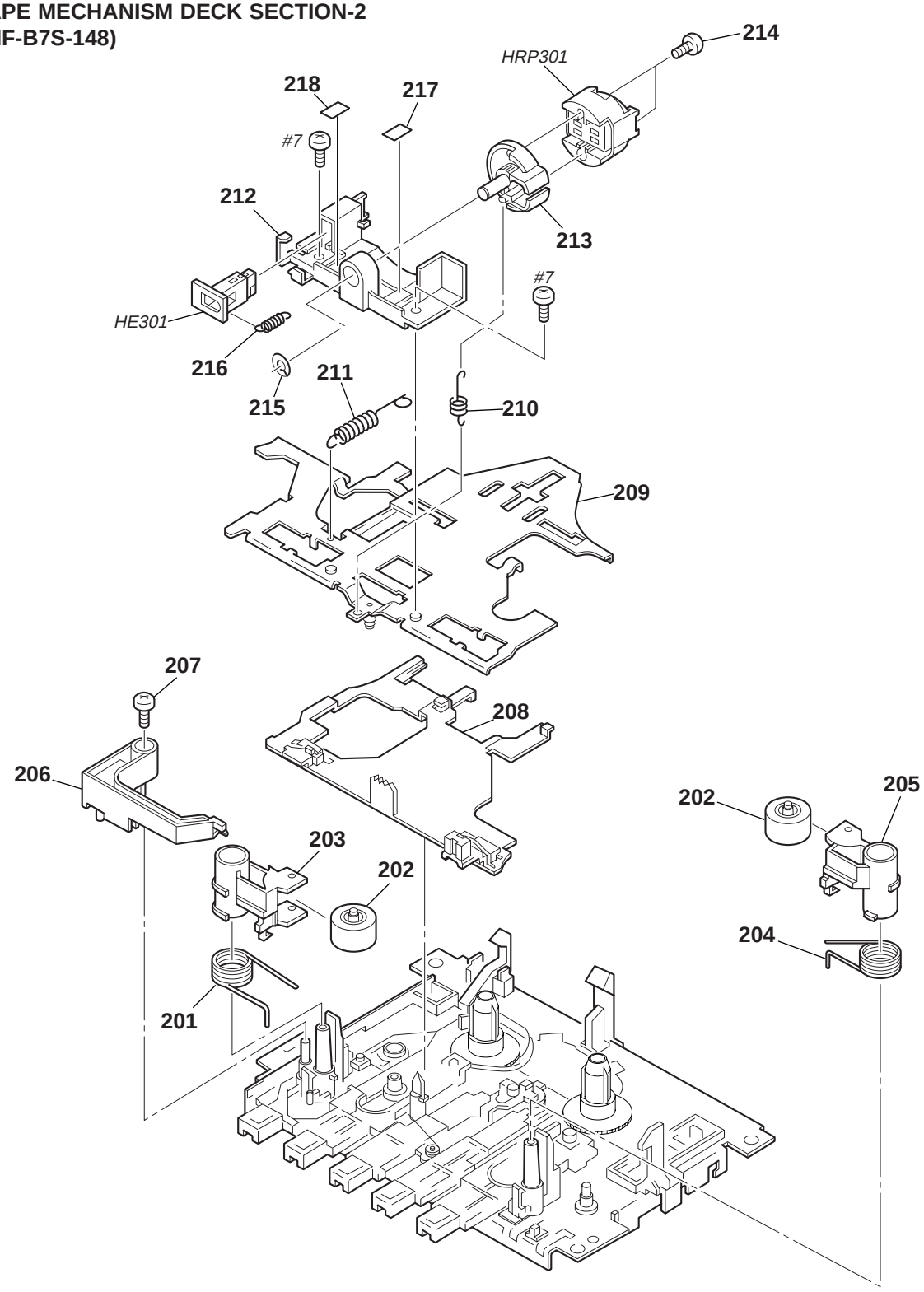
## 7-4. TAPE MECHANISM DECK SECTION-1 (MF-B7S-148)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 151 | 3-038-315-01 | STOPPER, MD BUTTON | |
| * 152 | 3-024-566-01 | SLIDER (SD) | |
| 153 | 3-024-556-02 | PLATE, LOCK | |
| * 154 | 3-024-585-01 | SLIDER (PSW) | |
| 155 | 3-024-990-01 | SPRING (LOCK PLATE), TORSION | |
| 156 | X-3375-501-1 | FLYWHEEL (F) ASSY | |
| 157 | X-3376-512-1 | FLYWHEEL (S) ASSY | |
| 158 | 3-024-989-01 | BELT | |
| 159 | 3-343-251-01 | SCREW (M2.6X2.5) | |
| * 160 | 3-024-615-01 | BRACKET, MOTOR | |
| 161 | 3-034-575-01 | O PLATE PWH.B TYPE 1.7X4 | |
| 162 | 3-024-564-01 | LEVER (U), SO | |
| 163 | 3-024-980-01 | SPRING, COMPRESSION | |
| 164 | 3-024-590-01 | GEAR, SO | |
| 165 | 3-024-604-01 | GEAR (DRIVING) | |
| 166 | X-3375-505-1 | LEVER ASSY, IDLER | |
| * 167 | 3-024-561-01 | SLIDER (MODE) | |
| * 168 | 3-024-606-01 | SLIDER (MD) | |
| 169 | 3-024-591-01 | GEAR (B), SO | |
| 170 | 3-024-584-01 | GEAR (MID-B) | |
| 171 | 3-024-977-01 | SPRING (EJECT), TORSION | |

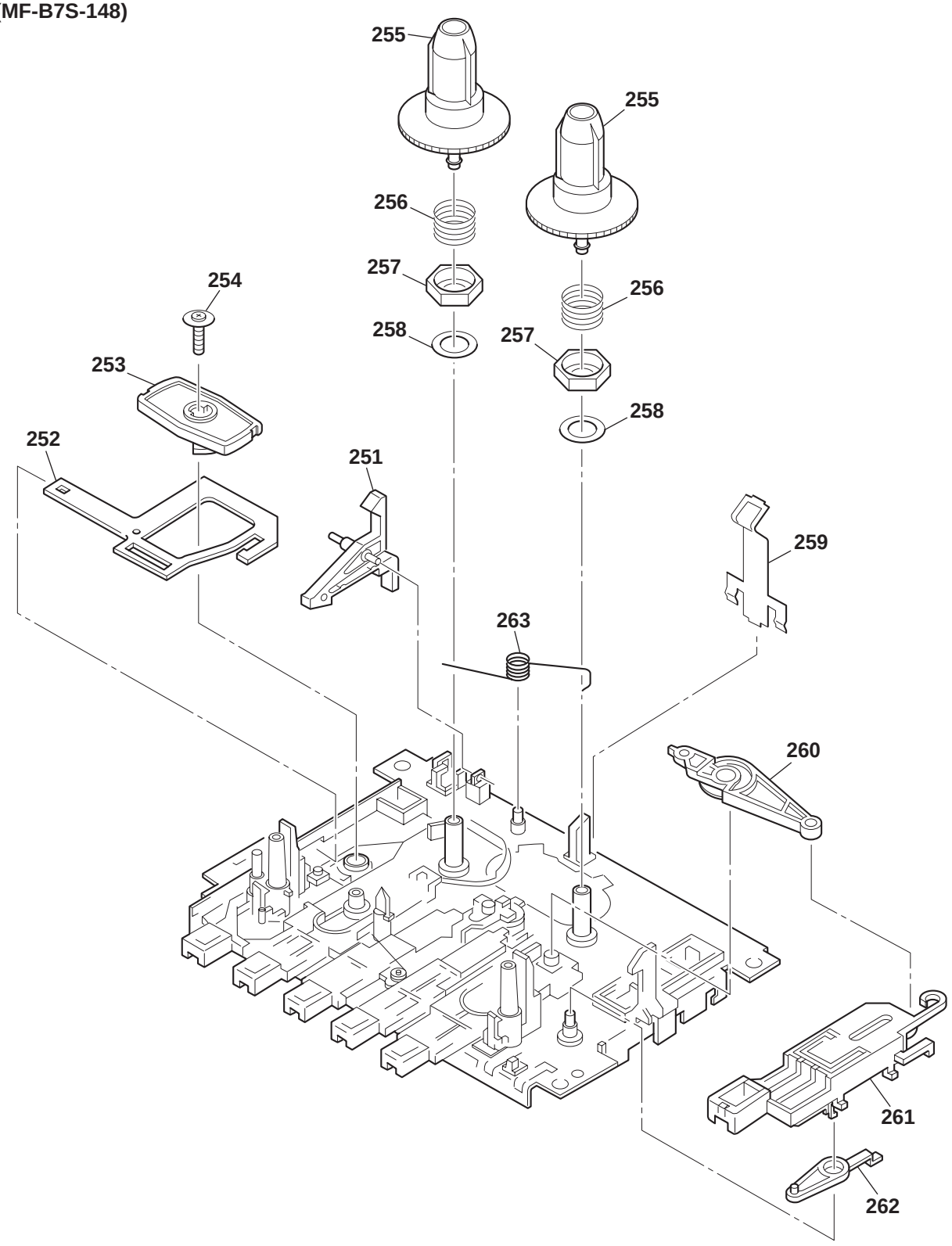
| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 172 | 3-024-587-01 | GEAR (MANUAL D) | |
| 173 | 3-024-563-01 | LEVER (A), SO | |
| 174 | 3-024-562-01 | LEVER, M LOCK | |
| 175 | 3-024-976-01 | SPRING (SO LEVER B), TORSION | |
| 176 | 3-024-983-01 | SPRING (CNT), TORSION | |
| 177 | 3-024-607-01 | LEVER (B), SO | |
| 178 | 3-024-974-01 | SPRING (M LOCK LEVER), TORSION | |
| 179 | 3-024-986-01 | SPRING (M KNOB), TORSION | |
| 180 | 3-030-741-01 | SCREW (M2X2) | |
| 181 | 3-030-667-01 | PLATE, RETAINER | |
| 182 | 3-343-358-01 | RING, RETAINING | |
| 183 | 3-024-973-01 | SPRING (REC), TORSION | |
| 184 | 3-024-985-01 | SPRING (STOP), TORSION | |
| 185 | 3-024-972-01 | SPRING (FR), TORSION | |
| 186 | 1-670-207-11 | TRANSLATION (HEAD) BOARD | |
| 187 | 3-024-600-01 | ARM, PAS | |
| 188 | 9-911-845-99 | CUSHION | |
| 189 | 3-035-874-01 | WASHER | |
| M301 | A-3320-436-A | MOTOR ASSY (CAPSTAN/REEL) | |
| S302 | 1-571-556-11 | SWITCH, LEAF (DIR MODE) | |
| S304 | 1-692-302-11 | SWITCH, LEAF (MOTOR ON/OFF) | |

## 7-5. TAPE MECHANISM DECK SECTION-2 (MF-B7S-148)



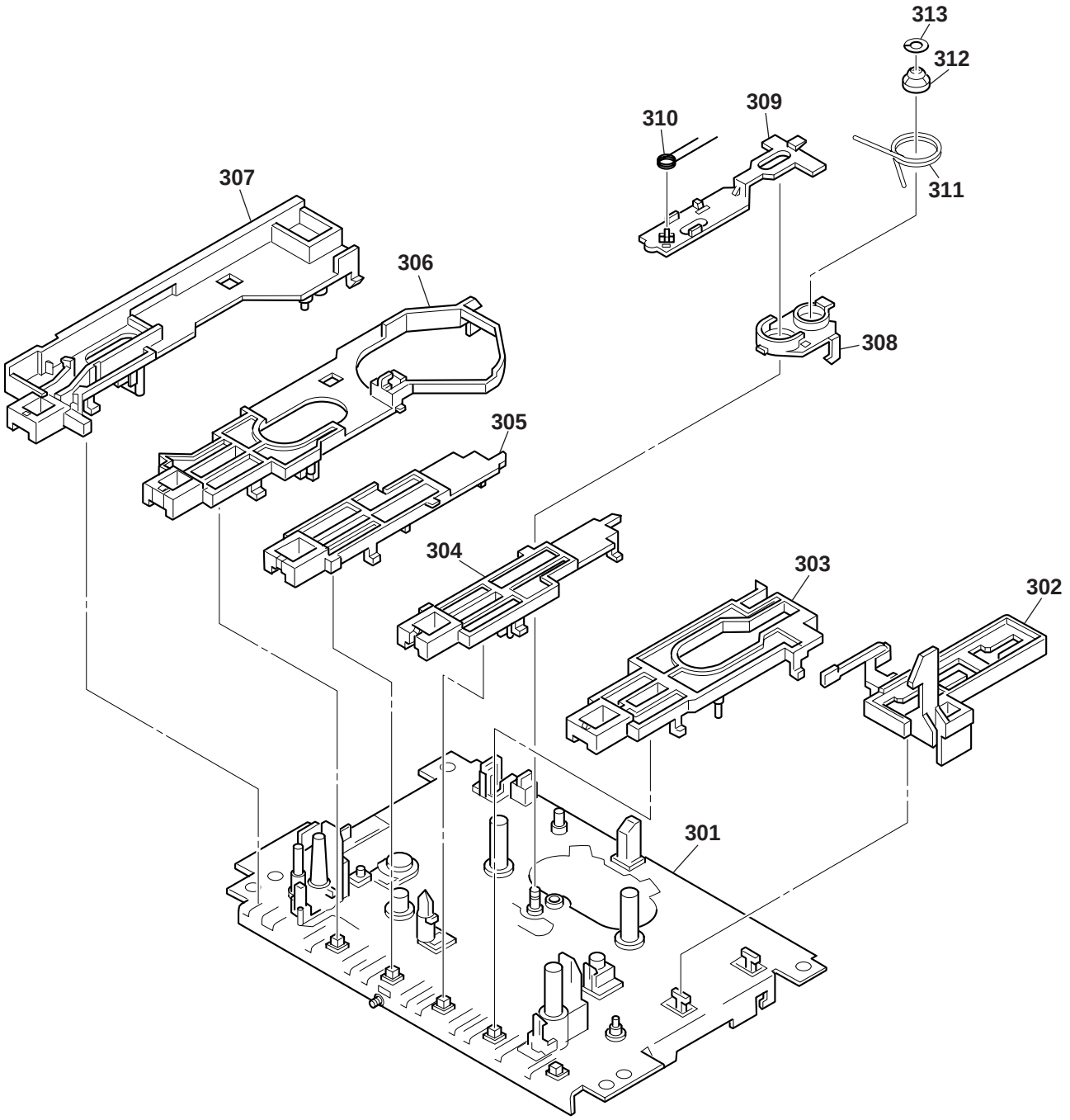

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 201 | 3-024-979-01 | SPRING (PINCH R), TORSION | |
| 202 | 3-933-024-01 | ROLLER, PINCH | |
| 203 | 3-024-575-01 | ARM (R), PINCH | |
| 204 | 3-024-978-01 | SPRING (PINCH N), TORSION | |
| 205 | 3-024-574-01 | ARM (F), PINCH | |
| 206 | 3-024-596-01 | ARM, EBF | |
| 207 | 3-034-575-01 | O PLATE PWH.B TYPE 1.7X4 | |
| 208 | 3-024-609-01 | SLIDER, D | |
| 209 | X-3375-504-1 | CHASSIS ASSY, HEAD | |
| 210 | 3-024-987-01 | SPRING, TENSION | |
| 211 | 3-024-988-01 | SPRING, TENSION | |
| 212 | X-3375-582-1 | TABLE ASSY, HEAD | |
| 213 | X-3375-581-1 | HOLDER ASSY, HD | |
| 214 | 3-309-597-91 | SCREW (1.4), TAPPING | |
| 215 | 3-386-150-01 | RING (ROLLER), RETAINING | |
| 216 | 3-313-850-01 | SPRING, TENSION | |
| * 217 | 3-377-197-11 | SHEET (AZ) | |
| * 218 | 3-377-197-01 | SHEET (AZ) | |
| HE301 | 1-500-338-11 | HEAD, MAGNETIC (ERASE) | |
| HRP301 | 1-543-872-11 | HEAD, MAGNETIC (REC/PB) | |

## 7-6. TAPE MECHANISM DECK SECTION-3
## (MF-B7S-148)



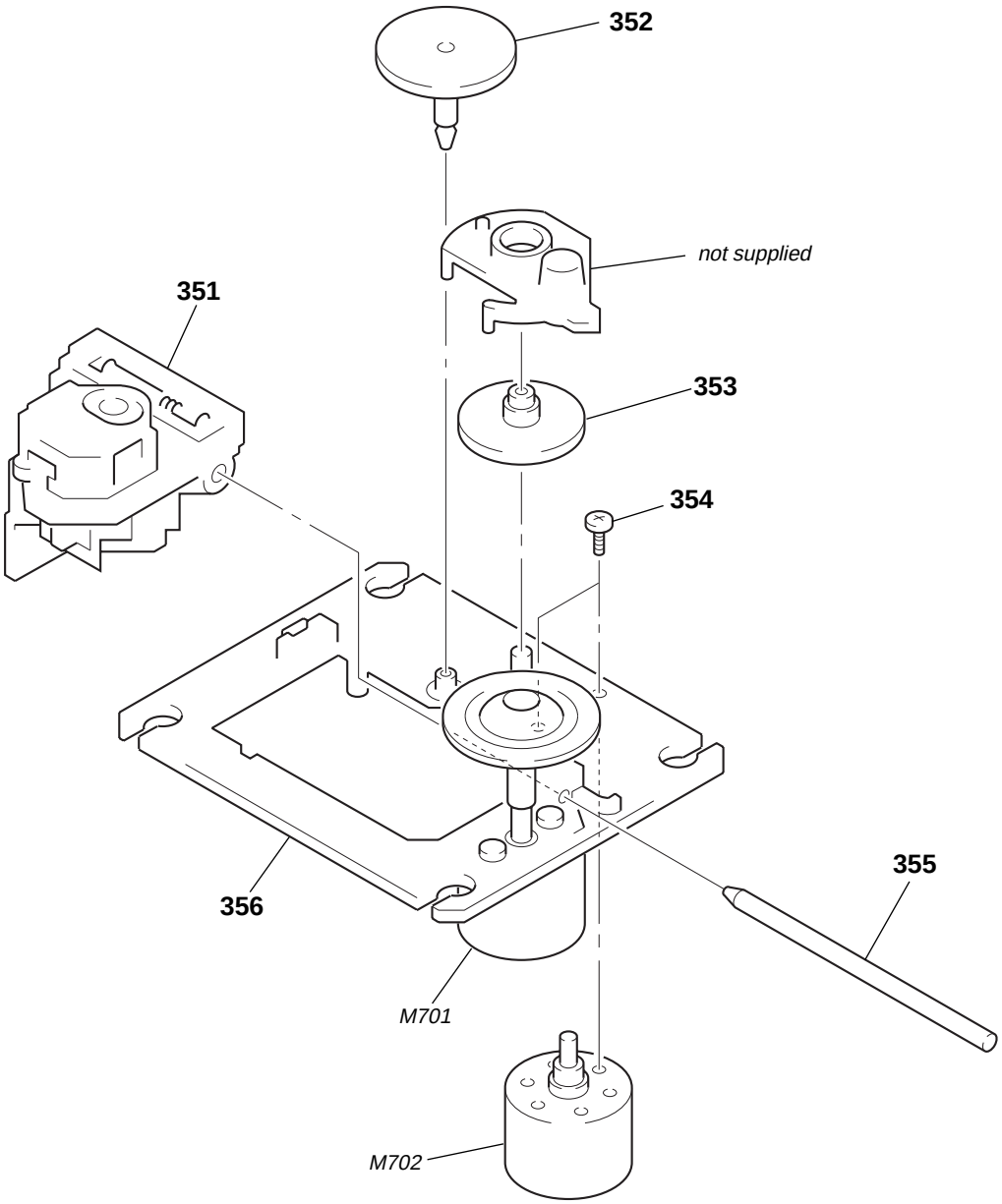

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 251 | 3-024-589-01 | CLAW, PREVENTION | |
| * 252 | 3-024-602-01 | SLIDER (B), D | |
| 253 | 3-024-586-01 | CAM, MANUAL (D) | |
| 254 | 3-344-737-11 | SCREW (B1.4X6), TAPPING | |
| 255 | 3-024-603-01 | GEAR (REEL) | |
| 256 | 3-024-981-01 | SPRING, COMPRESSION | |
| 257 | 3-024-583-01 | SPRING HOLDER | |
| 258 | 4-931-795-21 | WASHER | |
| 259 | 3-024-611-01 | DETENT, CASSETTE | |
| 260 | 3-024-600-01 | ARM, PAS | |
| * 261 | 3-024-580-01 | SLIDER (PAUSE) | |
| 262 | 3-024-608-01 | PIN, PAUSE LOCK | |
| 263 | 3-024-992-01 | SPRING (FWD), TORSION | |

## 7-7. TAPE MECHANISM DECK SECTION-4 (MF-B7S-148)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 301 | X-3375-503-1 | CHASSIS ASSY, MECHANICAL | |
| * 302 | 3-024-558-01 | SLIDER (EJECT) | |
| * 303 | 3-024-557-01 | SLIDER (STOP) | |
| * 304 | 3-024-572-01 | SLIDER (FF) | |
| * 305 | 3-024-559-01 | SLIDER (REW) | |
| * 306 | 3-024-560-01 | SLIDER (FWD) | |
| * 307 | 3-024-573-01 | SLIDER (REC) | |
| 308 | 3-024-588-01 | LEVER (FW), ID | |
| 309 | 3-027-181-01 | SLIDER (FR) | |
| 310 | 3-027-069-01 | SPRING (FRW), TORSION | |
| 311 | 3-024-975-01 | SPRING (IDLER LEVER), TORSION | |
| 312 | 3-024-984-01 | SPRING (K), COMPRESSION | |
| 313 | 3-321-483-11 | RING, RETAINING | |

## 7-8. OPTICAL PICK-UP SECTION (KSM-213CDM)




The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| ⚠351 | 8-848-483-05 | PICK-UP, OPTICAL KSS-213C/Q-RP | |
| 352 | 2-626-907-01 | GEAR (A) | |
| 353 | 2-627-003-02 | GEAR (B) (RP) | |
| 354 | 3-713-786-51 | SCREW +P 2X3 | |
| 355 | 2-626-908-01 | SHAFT, SLED | |
| 356 | X-2626-202-1 | CHASSIS ASSY (MB), MOTOR (SPINDLE) (INCLUDING M701) | |
| M702 | X-2625-769-1 | GEAR ASSY (MB), MOTOR (SLED) | |

# BATTERY | BATTERY COMMON | CD MOTOR | CONTROL

# SECTION 8
# ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | 1-672-726-11 | BATTERY BOARD ********** | | | |
| | 3-028-154-01 | TERMINAL (–), BATTERY | | | |
| | 3-028-156-01 | TERMINAL (S) (–), BATTERY | | | |
| | | < CABLE HOLDER > | | | |
| * KH901 | 1-565-385-11 | HOLDER, CABLE 4P | | | |
| * KH905 | 1-573-287-11 | HOLDER, CABLE 2P | | | |
| ********** | | | | | |
| * | 1-672-727-11 | BATTERY COMMON BOARD ********** | | | |
| | 3-028-154-01 | TERMINAL (–), BATTERY | | | |
| | | < CONNECTOR > | | | |
| * CNP904 | 1-580-154-11 | PIN, CONNECTOR (PC BOARD) 2P | | | |
| ********** | | | | | |
| | 1-658-023-31 | CD MOTOR BOARD ********** | | | |
| | | < CONNECTOR > | | | |
| CNP707 | 1-564-722-11 | PIN, CONNECTOR (SMALL TYPE) 6P | | | |
| | | < SWITCH > | | | |
| S701 | 1-572-085-11 | SWITCH, LEAF (LIMIT) | | | |
| ********** | | | | | |
| * | A-3323-232-A | CONTROL BOARD, COMPLETE ********** | | | |
| | | < CAPACITOR > | | | |
| C601 | 1-162-282-31 | CERAMIC | 100PF | 10% 50V | |
| C602 | 1-161-494-00 | CERAMIC | 0.022uF | 25V | |
| | | < CONNECTOR > | | | |
| * CNP602 | 1-695-371-31 | PIN, CONNECTOR (PC BOARD) 10P | | | |
| | | < DIODE > | | | |
| D601 | 8-719-059-97 | LED L-34HD (OPR/BATT) | | | |
| D602 | 8-719-059-97 | LED L-34HD (TAPE ◁) | | | |
| D603 | 8-719-059-97 | LED L-34HD (TAPE ▷) | | | |
| D604 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D605 | 8-719-991-33 | DIODE 1SS133T-77 | | | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < IC > | | | |
| IC601 | 8-749-014-66 | IC NJL64H400A | | | |
| | | < RESISTOR > | | | |
| R601 | 1-249-415-11 | CARBON | 680 | 5% 1/4W | |
| R602 | 1-249-416-11 | CARBON | 820 | 5% 1/4W | |
| R603 | 1-249-418-11 | CARBON | 1.2K | 5% 1/4W | |
| R604 | 1-249-420-11 | CARBON | 1.8K | 5% 1/4W | |
| R605 | 1-247-843-11 | CARBON | 3.3K | 5% 1/4W | |
| R606 | 1-249-427-11 | CARBON | 6.8K | 5% 1/4W | |
| R607 | 1-249-432-11 | CARBON | 18K | 5% 1/4W | |
| R608 | 1-249-415-11 | CARBON | 680 | 5% 1/4W | |
| R609 | 1-249-416-11 | CARBON | 820 | 5% 1/4W | |
| R610 | 1-249-418-11 | CARBON | 1.2K | 5% 1/4W | |
| R611 | 1-249-420-11 | CARBON | 1.8K | 5% 1/4W | |
| R612 | 1-247-843-11 | CARBON | 3.3K | 5% 1/4W | |
| R613 | 1-249-427-11 | CARBON | 6.8K | 5% 1/4W | |
| R615 | 1-249-415-11 | CARBON | 680 | 5% 1/4W | |
| R616 | 1-249-416-11 | CARBON | 820 | 5% 1/4W | |
| R617 | 1-249-418-11 | CARBON | 1.2K | 5% 1/4W | |
| R618 | 1-249-420-11 | CARBON | 1.8K | 5% 1/4W | |
| R619 | 1-247-843-11 | CARBON | 3.3K | 5% 1/4W | |
| R620 | 1-249-427-11 | CARBON | 6.8K | 5% 1/4W | |
| R621 | 1-249-432-11 | CARBON | 18K | 5% 1/4W | |
| R622 | 1-247-826-00 | CARBON | 620 | 5% 1/4W | |
| R623 | 1-247-815-00 | CARBON | 220 | 5% 1/4W | |
| R624 | 1-249-415-11 | CARBON | 680 | 5% 1/4W | |
| R625 | 1-249-415-11 | CARBON | 680 | 5% 1/4W | |
| | | < SWITCH > | | | |
| S601 | 1-762-798-11 | SWITCH, KEY BOARD (POWER) | | | |
| S602 | 1-762-798-11 | SWITCH, KEY BOARD (SLEEP) | | | |
| S603 | 1-762-798-11 | SWITCH, KEY BOARD (TIMER) | | | |
| S604 | 1-762-798-11 | SWITCH, KEY BOARD (MEGA BASS) | | | |
| S605 | 1-762-798-11 | SWITCH, KEY BOARD (VOLUME +) | | | |
| S606 | 1-762-798-11 | SWITCH, KEY BOARD (VOLUME –) | | | |
| S607 | 1-762-798-11 | SWITCH, KEY BOARD (SOUND) | | | |
| S609 | 1-762-798-11 | SWITCH, KEY BOARD (CD ▷ ▯▯) | | | |
| S610 | 1-762-798-11 | SWITCH, KEY BOARD (CD □ ) | | | |
| S611 | 1-762-798-11 | SWITCH, KEY BOARD (▶▶▌ +) | | | |
| S612 | 1-762-798-11 | SWITCH, KEY BOARD (▌◀◀ –) | | | |
| S613 | 1-762-798-11 | SWITCH, KEY BOARD (PLAY MODE MONO/ST) | | | |
| S614 | 1-762-798-11 | SWITCH, KEY BOARD (DISPLAY ENT/MEMORY) | | | |
| S617 | 1-762-798-11 | SWITCH, KEY BOARD (RADIO (BAND)) | | | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| S618 | 1-762-798-11 | SWITCH, KEY BOARD (STANDBY) | | | |
| S619 | 1-762-798-11 | SWITCH, KEY BOARD (CLOCK) | | | |
| S620 | 1-762-798-11 | SWITCH, KEY BOARD (PRESET +) | | | |
| S621 | 1-762-798-11 | SWITCH, KEY BOARD (PRESET –) | | | |
| S622 | 1-762-798-11 | SWITCH, KEY BOARD (FUNCTION) | | | |
| S623 | 1-762-798-11 | SWITCH, KEY BOARD (LOOP/AUTO PRESET) | | | |
| S624 | 1-762-798-11 | SWITCH, KEY BOARD (FLASH) | | | |
| ********** | | | | | |
| * | 1-672-728-11 | HEADPHONE BOARD | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C158 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C258 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| | | < CONNECTOR > | | | |
| CNP306 | 1-506-987-11 | PIN, CONNECTOR (PC BOARD) 5P | | | |
| CNP307 | 1-506-986-11 | PIN, CONNECTOR (PC BOARD) 4P | | | |
| | | < COIL > | | | |
| FB151 | 1-408-599-31 | INDUCTOR | 4.7uH | | |
| FB251 | 1-408-599-31 | INDUCTOR | 4.7uH | | |
| FB351 | 1-408-599-31 | INDUCTOR | 4.7uH | | |
| | | < JACK > | | | |
| J301 | 1-568-267-11 | JACK (🎧) | | | |
| | | < RESISTOR > | | | |
| R157 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R158 | 1-247-807-11 | CARBON | 100 | 5% | 1/4W |
| R257 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R258 | 1-247-807-11 | CARBON | 100 | 5% | 1/4W |
| ********** | | | | | |
| * | A-3322-033-A | MAIN BOARD, COMPLETE | | | |
| | | ********** | | | |
| | 3-032-035-01 | HOLDER (LCD) | | | |
| | 3-034-118-01 | HOLDER (IC) | | | |
| | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-162-301-11 | CERAMIC | 0.0015uF | 20% | 16V |
| C102 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C103 | 1-127-883-21 | CERAMIC | 0.039uF | 10% | 50V |
| C104 | 1-162-302-11 | CERAMIC | 0.0022uF | 20% | 16V |
| C105 | 1-162-215-31 | CERAMIC | 47PF | 5% | 50V |
| C107 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C141 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C181 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C182 | 1-162-302-11 | CERAMIC | 0.0022uF | 20% | 16V |
| C185 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C186 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C187 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C188 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C189 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C190 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C191 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C192 | 1-162-303-11 | CERAMIC | 0.0033uF | 30% | 16V |
| C201 | 1-162-301-11 | CERAMIC | 0.0015uF | 20% | 16V |
| C202 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C203 | 1-127-883-21 | CERAMIC | 0.039uF | 10% | 50V |
| C204 | 1-162-302-11 | CERAMIC | 0.0022uF | 20% | 16V |
| C205 | 1-162-215-31 | CERAMIC | 47PF | 5% | 50V |
| C207 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C241 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C281 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C282 | 1-162-302-11 | CERAMIC | 0.0022uF | 20% | 16V |
| C285 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C286 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C287 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C288 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C289 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C290 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C291 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C292 | 1-162-303-11 | CERAMIC | 0.0033uF | 30% | 16V |
| C301 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C302 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C304 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C305 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C307 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C308 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C311 | 1-162-301-11 | CERAMIC | 0.0015uF | 20% | 16V |
| C312 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C313 | 1-137-431-11 | FILM | 560PF | 5% | 50V |
| C316 | 1-162-305-11 | CERAMIC | 0.0068uF | 20% | 16V |
| C317 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C318 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C339 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C348 | 1-126-961-11 | ELECT | 2.2uF | 20% | 50V |
| C352 | 1-126-962-11 | ELECT | 3.3uF | 20% | 50V |
| C353 | 1-127-880-31 | CERAMIC | 0.022uF | 10% | 50V |
| C354 | 1-104-666-11 | ELECT | 220uF | 20% | 16V |
| C355 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C356 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C357 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C358 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C362 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C381 | 1-126-937-11 | ELECT | 4700uF | 20% | 16V |
| C501 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C502 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C503 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C504 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C505 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C506 | 1-102-518-11 | CERAMIC | 33PF | 5% | 50V |
| C507 | 1-102-516-11 | CERAMIC | 27PF | 5% | 50V |

## MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C508 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C509 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C510 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C511 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C512 | 1-102-518-11 | CERAMIC | 33PF | 5% | 50V |
| C513 | 1-102-516-11 | CERAMIC | 27PF | 5% | 50V |
| C514 | 1-102-516-11 | CERAMIC | 27PF | 5% | 50V |
| C515 | 1-102-518-11 | CERAMIC | 33PF | 5% | 50V |
| C516 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C517 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C518 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C519 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C552 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C559 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C561 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C563 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C564 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C565 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C566 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C567 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C568 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C569 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C570 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C577 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C580 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C581 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C582 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C583 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C588 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C590 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C592 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C593 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C594 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C596 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C597 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C598 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C599 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C701 | 1-162-600-11 | CERAMIC | 0.0047uF | 20% | 16V |
| C702 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C703 | 1-162-305-11 | CERAMIC | 0.0068uF | 20% | 16V |
| C704 | 1-137-374-11 | FILM | 0.047uF | 5% | 50V |
| C705 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C706 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C707 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C708 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C709 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C710 | 1-162-302-11 | CERAMIC | 0.0022uF | 20% | 16V |
| C711 | 1-162-199-31 | CERAMIC | 10PF | 5% | 50V |
| C712 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C713 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C714 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C715 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C716 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C717 | 1-137-370-11 | FILM | 0.01uF | 5% | 50V |
| C718 | 1-131-377-00 | TANTALUM | 10uF | 10% | 10V |
| C719 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C720 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C721 | 1-137-370-11 | FILM | 0.01uF | 5% | 50V |
| C722 | 1-130-489-00 | MYLAR | 0.033uF | 5% | 50V |
| C723 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C724 | 1-130-489-00 | MYLAR | 0.033uF | 5% | 50V |
| C725 | 1-137-440-11 | FILM | 0.018uF | 5% | 50V |
| C727 | 1-162-199-31 | CERAMIC | 10PF | 5% | 50V |
| C728 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C729 | 1-126-962-11 | ELECT | 3.3uF | 20% | 50V |
| C730 | 1-137-375-11 | FILM | 0.068uF | 5% | 50V |
| C731 | 1-162-215-31 | CERAMIC | 47PF | 5% | 50V |
| C732 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C734 | 1-162-302-11 | CERAMIC | 0.0022uF | 20% | 16V |
| C737 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C739 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C741 | 1-127-878-21 | CERAMIC | 0.015uF | 10% | 50V |
| C742 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C743 | 1-104-664-11 | ELECT | 47uF | 20% | 10V |
| C744 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C745 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C748 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C749 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C750 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C751 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C753 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C755 | 1-127-888-21 | CERAMIC | 0.1uF | 10% | 50V |
| C756 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C759 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C760 | 1-137-194-81 | FILM | 0.47uF | 5% | 50V |
| C761 | 1-162-199-31 | CERAMIC | 10PF | 5% | 50V |
| C763 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C764 | 1-162-199-31 | CERAMIC | 10PF | 5% | 50V |
| C765 | 1-162-286-21 | CERAMIC | 220PF | 10% | 50V |
| C768 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C769 | 1-136-169-00 | FILM | 0.22uF | 5% | 50V |
| C772 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C773 | 1-126-382-11 | ELECT | 100uF | 20% | 16V |
| C774 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C775 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C776 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C777 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C780 | 1-162-284-31 | CERAMIC | 150PF | 10% | 50V |
| C781 | 1-162-292-31 | CERAMIC | 680PF | 10% | 50V |
| C782 | 1-137-189-11 | FILM | 0.18uF | 5% | 50V |
| C783 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C784 | 1-162-286-21 | CERAMIC | 220PF | 10% | 50V |
| C790 | 1-162-284-31 | CERAMIC | 150PF | 10% | 50V |
| C791 | 1-162-292-31 | CERAMIC | 680PF | 10% | 50V |
| C792 | 1-137-189-11 | FILM | 0.18uF | 5% | 50V |
| C798 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C799 | 1-130-489-00 | MYLAR | 0.033uF | 5% | 50V |
| C951 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C952 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C953 | 1-104-666-11 | ELECT | 220uF | 20% | 10V |
| C957 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C958 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C959 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| | | < CONNECTOR > | | | |
| CNP301 | 1-506-986-11 | PIN, CONNECTOR (PC BOARD) 4P | | | |
| * CNP304 | 1-580-160-11 | PIN, CONNECTOR (PC BOARD) 8P | | | |
| CNP305 | 1-506-986-11 | PIN, CONNECTOR (PC BOARD) 4P | | | |
| * CNP502 | 1-695-371-31 | CONNECTOR, FFC 10P | | | |
| CNP701 | 1-770-674-11 | CONNECTOR, FFC/FPC 16P | | | |
| | | < DIODE > | | | |
| D302 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D303 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D351 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D501 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D502 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D590 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D591 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D951 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D952 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D953 | 8-719-109-97 | DIODE RD6.8ES-B2 | | | |
| D955 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D957 | 8-719-109-89 | DIODE RD5.6ESB2 | | | |
| | | < FERRITE BEAD > | | | |
| FB705 | 1-412-911-11 | FERRITE BEAD INDUCTOR | | | |
| FB706 | 1-412-911-11 | FERRITE BEAD INDUCTOR | | | |
| | | < IC > | | | |
| IC301 | 8-759-264-71 | IC TA2068N | | | |
| IC303 | 8-759-426-51 | IC BA5417 | | | |
| IC304 | 8-759-426-51 | IC BA5417 | | | |
| IC501 | 8-752-905-50 | IC CXP83620-007Q | | | |
| IC502 | 8-759-479-70 | IC S-81250SGY-B | | | |
| IC503 | 8-759-511-42 | IC S-80730AN | | | |
| IC701 | 8-752-082-14 | IC CXA1992BR | | | |
| IC702 | 8-759-473-42 | IC BA6898FP | | | |
| IC703 | 8-752-384-13 | IC CXD2589Q | | | |
| | | < COIL > | | | |
| JW735 | 1-410-509-11 | INDUCTOR | 10uH | | |
| | | < CABLE HOLDER > | | | |
| * KH302 | 1-565-386-11 | HOLDER, CABLE 5P | | | |
| * KH303 | 1-568-135-21 | HOLDER, CABLE 7P | | | |
| * KH306 | 1-565-386-11 | HOLDER, CABLE 5P | | | |
| * KH503 | 1-573-287-11 | HOLDER, CABLE 2P | | | |
| * KH506 | 1-565-386-11 | HOLDER, CABLE 5P | | | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < COIL > | | | |
| L501 | 1-408-117-00 | INDUCTOR | 10uH | | |
| L502 | 1-408-105-00 | INDUCTOR | 1uH | | |
| L503 | 1-410-509-11 | INDUCTOR | 10uH | | |
| L701 | 1-410-509-11 | INDUCTOR | 10uH | | |
| L702 | 1-410-509-11 | INDUCTOR | 10uH | | |
| L703 | 1-410-509-11 | INDUCTOR | 10uH | | |
| | | < LIQUID CRYSTAL DISPLAY > | | | |
| LCD501 | 1-803-460-11 | DISPLAY PANEL, LIQUID CRYSTAL | | | |
| | | < TRANSISTOR > | | | |
| Q301 | 8-729-281-53 | TRANSISTOR 2SC1815-GR | | | |
| Q311 | 8-729-037-13 | TRANSISTOR KTA1271Y | | | |
| Q312 | 8-729-036-77 | TRANSISTOR KRC107M | | | |
| Q313 | 8-729-037-13 | TRANSISTOR KTA1271Y | | | |
| Q321 | 8-729-036-86 | TRANSISTOR KTC3203Y-AT | | | |
| Q322 | 8-729-036-86 | TRANSISTOR KTC3203Y-AT | | | |
| Q323 | 8-729-036-86 | TRANSISTOR KTC3203Y-AT | | | |
| Q324 | 8-729-037-29 | TRANSISTOR KRA102M | | | |
| Q325 | 8-729-036-77 | TRANSISTOR KRC107M | | | |
| Q326 | 8-729-036-57 | TRANSISTOR KRC101M-AT | | | |
| Q501 | 8-729-036-89 | TRANSISTOR KTC3198GR-AT | | | |
| Q502 | 8-729-037-34 | TRANSISTOR KRA107M | | | |
| Q503 | 8-729-037-34 | TRANSISTOR KRA107M | | | |
| Q505 | 8-729-922-66 | TRANSISTOR 2SC2410SN | | | |
| Q506 | 8-729-922-66 | TRANSISTOR 2SC2410SN | | | |
| Q701 | 8-729-037-13 | TRANSISTOR KTA1271Y | | | |
| Q951 | 8-729-036-57 | TRANSISTOR KRC101M-AT | | | |
| Q952 | 8-729-801-84 | TRANSISTOR 2SB1013-4 | | | |
| Q953 | 8-729-036-57 | TRANSISTOR KRC101M-AT | | | |
| Q954 | 8-729-037-24 | TRANSISTOR KRA111M-AT | | | |
| Q955 | 8-729-021-82 | TRANSISTOR 2SD2396K | | | |
| Q957 | 8-729-036-86 | TRANSISTOR KTC3203Y-AT | | | |
| Q958 | 8-729-037-13 | TRANSISTOR KTA1271Y | | | |
| Q959 | 8-729-036-57 | TRANSISTOR KRC101M-AT | | | |
| Q960 | 8-729-036-77 | TRANSISTOR KRC107M | | | |
| | | < RESISTOR > | | | |
| R101 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R102 | 1-249-404-00 | CARBON | 82 | 5% | 1/4W |
| R103 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R104 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R110 | 1-247-807-11 | CARBON | 100 | 5% | 1/4W |
| R111 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R112 | 1-247-863-00 | CARBON | 22K | 5% | 1/4W |
| R113 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R181 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R182 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R183 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R184 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R185 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |

## MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R186 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R187 | 1-249-387-11 | CARBON | 3.3 | 5% | 1/4W |
| R188 | 1-249-387-11 | CARBON | 3.3 | 5% | 1/4W |
| R189 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R191 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R201 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R202 | 1-249-404-00 | CARBON | 82 | 5% | 1/4W |
| R203 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R204 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R210 | 1-247-807-11 | CARBON | 100 | 5% | 1/4W |
| R211 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R212 | 1-247-863-00 | CARBON | 22K | 5% | 1/4W |
| R213 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R281 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R282 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R283 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R284 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R285 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R286 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R287 | 1-249-387-11 | CARBON | 3.3 | 5% | 1/4W |
| R288 | 1-249-387-11 | CARBON | 3.3 | 5% | 1/4W |
| R289 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R291 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R301 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R303 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R304 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R306 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R307 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R311 | 1-249-406-11 | CARBON | 120 | 5% | 1/4W |
| R312 | 1-247-863-00 | CARBON | 22K | 5% | 1/4W |
| R313 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R316 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R321 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R322 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R323 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R324 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R325 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R341 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R351 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R352 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R353 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R354 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R356 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R501 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R502 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R505 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R506 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R507 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R508 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R509 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R510 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R511 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R512 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R513 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R514 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R515 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R516 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R517 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R518 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R519 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R520 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R521 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R522 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R523 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R524 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R525 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R527 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R528 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R529 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R530 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R532 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R534 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R535 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R536 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R537 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R538 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R539 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R540 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R541 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R542 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R543 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R544 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R545 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R546 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R547 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R548 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R549 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R550 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R551 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R552 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R553 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R554 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R555 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R556 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R557 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R558 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R559 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R560 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R561 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R562 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R563 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R564 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R566 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R567 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R568 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R569 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R570 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R571 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R578 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R579 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R580 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R581 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W |
| R582 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W |
| R583 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R584 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R585 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R586 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R587 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R588 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R589 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R590 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R591 | 1-247-878-00 | CARBON | 91K | 5% | 1/4W |
| R592 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R593 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R594 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R595 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R596 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R597 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R598 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R599 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R701 | 1-249-440-11 | CARBON | 82K | 5% | 1/4W |
| R702 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R703 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R704 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R705 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R706 | 1-249-440-11 | CARBON | 82K | 5% | 1/4W |
| R707 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R709 | 1-247-883-00 | CARBON | 150K | 5% | 1/4W |
| R710 | 1-247-885-00 | CARBON | 180K | 5% | 1/4W |
| R711 | 1-247-883-00 | CARBON | 150K | 5% | 1/4W |
| R712 | 1-247-891-00 | CARBON | 330K | 5% | 1/4W |
| R714 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R715 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R716 | 1-247-852-11 | CARBON | 7.5K | 5% | 1/4W |
| R717 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R718 | 1-247-899-11 | CARBON | 680K | 5% | 1/4W |
| R719 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R720 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R721 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R722 | 1-247-886-11 | CARBON | 200K | 5% | 1/4W |
| R723 | 1-247-896-11 | CARBON | 510K | 5% | 1/4W |
| R724 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W |
| R725 | 1-247-883-00 | CARBON | 150K | 5% | 1/4W |
| R726 | 1-247-883-00 | CARBON | 150K | 5% | 1/4W |
| R727 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R728 | 1-247-885-00 | CARBON | 180K | 5% | 1/4W |
| R729 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R730 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R731 | 1-247-863-00 | CARBON | 22K | 5% | 1/4W |
| R734 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R735 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R736 | 1-247-863-00 | CARBON | 22K | 5% | 1/4W |
| R738 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R741 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R742 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R744 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R745 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R746 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R747 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R748 | 1-247-890-11 | CARBON | 300K | 5% | 1/4W |
| R757 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R758 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R760 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R764 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R765 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R766 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R768 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R771 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R772 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R780 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R781 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R782 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R790 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R791 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R792 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R951 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R952 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R954 | 1-247-815-00 | CARBON | 220 | 5% | 1/4W |
| R955 | 1-247-807-11 | CARBON | 100 | 5% | 1/4W |
| R958 | 1-247-815-00 | CARBON | 220 | 5% | 1/4W |
| R960 | 1-247-807-11 | CARBON | 100 | 5% | 1/4W |
| R961 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R962 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R963 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |

< TRANSFORMER >

| | | |
|---|---|---|
| T301 | 1-416-041-11 | TRANSFORMER, BIAS OSCILLATION |

< VIBRATOR >

| | | |
|---|---|---|
| X501 | 1-781-357-11 | VIBRATOR, CERAMIC (4.19MHz) |
| X502 | 1-767-697-11 | VIBRATOR, CRYSTAL (32.768kHz) |
| X701 | 1-577-253-11 | VIBRATOR, CERAMIC (16.9344MHz) |

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| | | |
|---|---|---|
| * | 1-672-724-11 | PRIMARY BOARD |

**********

< AC INLET >

| | | |
|---|---|---|
| ⚠CNJ901 | 1-540-009-11 | INLET, AC ( ∼ AC IN) |

< CABLE HOLDER >

| | | |
|---|---|---|
| * KH902 | 1-565-384-11 | HOLDER, CABLE 3P |

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The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

# SECONDARY SOUND

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | A-3322-028-A | SECONDARY BOARD, COMPLETE | | | |
| | | ********** | | | |
| | 1-533-233-31 | HOLDER, FUSE | | | |
| | | < CAPACITOR > | | | |
| C901 | 1-101-005-00 | CERAMIC | 22000PF | | 50V |
| C902 | 1-101-005-00 | CERAMIC | 22000PF | | 50V |
| C903 | 1-101-005-00 | CERAMIC | 22000PF | | 50V |
| C904 | 1-101-005-00 | CERAMIC | 22000PF | | 50V |
| C907 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C908 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C909 | 1-126-768-11 | ELECT | 2200uF | 20% | 16V |
| C910 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| | | < CONNECTOR > | | | |
| CNP901 | 1-506-986-11 | PIN, CONNECTOR (PC BOARD) 4P | | | |
| CNP902 | 1-506-987-11 | PIN, CONNECTOR (PC BOARD) 5P | | | |
| * CNP906 | 1-580-155-11 | PIN, CONNECTOR (PC BOARD) 3P | | | |
| | | < DIODE > | | | |
| D401 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D402 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D403 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D404 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D405 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D406 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D407 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D408 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D901 | 8-719-046-07 | DIODE 2A02M | | | |
| D902 | 8-719-046-07 | DIODE 2A02M | | | |
| D903 | 8-719-046-07 | DIODE 2A02M | | | |
| D904 | 8-719-046-07 | DIODE 2A02M | | | |
| D905 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D906 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D907 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D908 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D909 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D910 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| | | < FUSE > | | | |
| ⚠F902 | 1-576-109-11 | FUSE (5A/125V) | | | |
| | | < IC > | | | |
| IC901 | 8-759-479-70 | IC S-81250SGY-B | | | |
| | | < COIL > | | | |
| JW915 | 1-410-509-11 | INDUCTOR | 10uH | | |
| | | < TRANSISTOR > | | | |
| Q401 | 8-729-036-77 | TRANSISTOR KRC107M | | | |
| Q402 | 8-729-036-77 | TRANSISTOR KRC107M | | | |
| Q404 | 8-729-036-77 | TRANSISTOR KRC107M | | | |
| Q405 | 8-729-037-34 | TRANSISTOR KRA107M | | | |
| Q406 | 8-729-036-80 | TRANSISTOR KRC110M | | | |
| Q407 | 8-729-037-03 | TRANSISTOR KTA1266GR-AT | | | |
| Q408 | 8-729-036-77 | TRANSISTOR KRC107M | | | |
| Q409 | 8-729-036-77 | TRANSISTOR KRC107M | | | |
| | | < RESISTOR > | | | |
| R401 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R404 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R405 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R406 | 1-247-815-00 | CARBON | 220 | 5% | 1/4W |
| R407 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R409 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W |
| R902 | 1-249-387-11 | CARBON | 3.3 | 5% | 1/4W |
| R903 | 1-247-807-11 | CARBON | 100 | 5% | 1/4W |
| R904 | 1-247-807-11 | CARBON | 100 | 5% | 1/4W |
| R906 | 1-247-899-11 | CARBON | 680K | 5% | 1/4W |
| R907 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R908 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| ********** | | | | | |
| * | A-3322-036-A | SOUND BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C142 | 1-162-301-11 | CERAMIC | 0.0015uF | 20% | 16V |
| C143 | 1-126-791-11 | ELECT | 10uF | 20% | 16V |
| C144 | 1-127-886-21 | CERAMIC | 0.068uF | 10% | 50V |
| C145 | 1-127-886-21 | CERAMIC | 0.068uF | 10% | 50V |
| C146 | 1-127-876-21 | CERAMIC | 0.01uF | 10% | 50V |
| C147 | 1-115-871-11 | ELECT | 1uF | 20% | 50V |
| C242 | 1-162-301-11 | CERAMIC | 0.0015uF | 20% | 16V |
| C243 | 1-126-791-11 | ELECT | 10uF | 20% | 16V |
| C244 | 1-127-886-21 | CERAMIC | 0.068uF | 10% | 50V |
| C245 | 1-127-886-21 | CERAMIC | 0.068uF | 10% | 50V |
| C246 | 1-127-876-21 | CERAMIC | 0.01uF | 10% | 50V |
| C247 | 1-115-871-11 | ELECT | 1uF | 20% | 50V |
| C333 | 1-126-785-11 | ELECT | 47uF | 20% | 10V |
| C334 | 1-115-872-11 | ELECT | 2.2uF | 20% | 50V |
| C335 | 1-126-791-11 | ELECT | 10uF | 20% | 16V |
| C336 | 1-126-791-11 | ELECT | 10uF | 20% | 16V |
| C337 | 1-124-635-00 | ELECT | 220uF | 20% | 6.3V |
| C338 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C340 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C341 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C342 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C343 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C347 | 1-126-382-11 | ELECT | 100uF | 20% | 6.3V |
| | | < CONNECTOR > | | | |
| * CNP311 | 1-766-594-11 | PIN, CONNECTOR (PC BOARD) 11P | | | |

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < IC > | | | |
| IC302 | 8-759-432-41 | IC BH3854AS | | | |
| | | < TRANSISTOR > | | | |
| Q308 | 8-729-036-58 | TRANSISTOR KRC102M-AT | | | |
| Q309 | 8-729-036-80 | TRANSISTOR KRC110M | | | |
| | | < RESISTOR > | | | |
| R141 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R142 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W |
| R241 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R242 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W |
| R326 | 1-249-399-11 | CARBON | 33 | 5% | 1/4W |
| R338 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R339 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R340 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R344 | 1-247-863-00 | CARBON | 22K | 5% | 1/4W |
| ********** | | | | | |
| * | A-3322-035-A | TUNER BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C8 | 1-162-301-11 | CERAMIC | 0.0015uF | 30% | 16V |
| C10 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C11 | 1-127-888-21 | CERAMIC | 0.1uF | 10% | 50V |
| C12 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C13 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C14 | 1-127-879-21 | CERAMIC | 0.018uF | 10% | 50V |
| C15 | 1-127-879-21 | CERAMIC | 0.018uF | 10% | 50V |
| C16 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C17 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C18 | 1-104-666-11 | ELECT | 220uF | 20% | 10V |
| C20 | 1-127-888-21 | CERAMIC | 0.1uF | 10% | 50V |
| C21 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C22 | 1-127-888-21 | CERAMIC | 0.1uF | 10% | 50V |
| C23 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C24 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V |
| C25 | 1-162-600-11 | CERAMIC | 0.0047uF | 20% | 16V |
| C27 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C30 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C31 | 1-102-514-11 | CERAMIC | 22PF | 5% | 50V |
| C33 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C34 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C35 | 1-127-888-21 | CERAMIC | 0.1uF | 10% | 50V |
| C40 | 1-127-888-21 | CERAMIC | 0.1uF | 10% | 50V |
| C41 | 1-102-821-00 | CERAMIC | 360PF | 5% | 50V |
| C42 | 1-162-198-31 | CERAMIC | 8.2PF | 10% | 50V |
| C43 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C44 | 1-127-888-21 | CERAMIC | 0.1uF | 10% | 50V |
| C45 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C51 | 1-162-203-31 | CERAMIC | 15PF | 5% | 50V |
| C52 | 1-162-201-31 | CERAMIC | 12PF | 5% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C53 | 1-136-171-00 | FILM | 0.33uF | 5% | 50V |
| C54 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C55 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C56 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C57 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C58 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C60 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C62 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C63 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C64 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C65 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C77 | 1-137-370-11 | FILM | 0.01uF | 5% | 50V |
| C80 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C91 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C92 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C93 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C95 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C96 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C98 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| | | < FILTER > | | | |
| CF1 | 1-760-738-61 | FILTER, CERAMIC | | | |
| CF3 | 1-781-171-11 | DISCRIMINATOR, CERAMIC | | | |
| CF4 | 1-781-344-11 | FILTER, AM CERAMIC | | | |
| | | < CONNECTOR > | | | |
| CNP1 | 1-506-987-11 | PIN, CONNECTOR (PC BOARD) 5P | | | |
| * CNP2 | 1-580-159-11 | PIN, CONNECTOR (PC BOARD) 7P | | | |
| | | < TRIMMER > | | | |
| CT1 | 1-141-603-11 | CAP, ADJ | 20PF | | |
| CT3 | 1-141-601-11 | CAP, ADJ | 10PF | | |
| | | < DIODE > | | | |
| D1 | 8-719-050-72 | DIODE KV1370NT | | | |
| D2 | 8-719-050-72 | DIODE KV1370NT | | | |
| D3 | 8-719-050-69 | DIODE KV1520N | | | |
| D5 | 8-719-923-93 | DIODE MTZJ-T-77-16C | | | |
| D6 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D7 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D10 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D11 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| | | < BPF > | | | |
| FL1 | 1-236-711-21 | FILTER, BAND PASS | | | |
| | | < IC > | | | |
| IC1 | 8-759-549-84 | IC TA2104AN | | | |
| IC2 | 8-759-549-57 | IC LC72137-D | | | |
| | | < COIL > | | | |
| L1 | 1-409-905-31 | COIL, FM RF | | | |

## TUNER

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| L2 | 1-409-904-31 | COIL, FM OSC | | | |
| L3 | 1-501-923-21 | ANTENNA, FERRITE-ROD (AM) | | | |
| L4 | 1-411-234-41 | COIL, AM OSC | | | |
| L11 | 1-414-142-11 | INDUCTOR | 1uH | | |
| L91 | 1-410-509-11 | INDUCTOR | 10uH | | |
| | | < TRANSISTOR > | | | |
| Q12 | 8-729-036-77 | TRANSISTOR | KRC107M | | |
| Q13 | 8-729-036-77 | TRANSISTOR | KRC107M | | |
| | | < RESISTOR > | | | |
| R1 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R3 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R4 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R10 | 1-247-791-00 | CARBON | 22 | 5% | 1/4W |
| R11 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R12 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R13 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R24 | 1-247-815-00 | CARBON | 220 | 5% | 1/4W |
| R25 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R30 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R31 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R32 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R33 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R35 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R40 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R41 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R50 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R51 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R53 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R54 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R56 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R58 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R59 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R60 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R61 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R64 | 1-247-863-00 | CARBON | 22K | 5% | 1/4W |
| R91 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R92 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R93 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R94 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R95 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| | | < TRANSFORMER > | | | |
| T1 | 1-433-741-11 | TRANSFORMER, IF | | | |
| | | < VIBRATOR > | | | |
| X1 | 1-760-130-11 | VIBRATOR, CRYSTAL (75kHz) | | | |

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| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | MISCELLANEOUS | |
| | | ********** | |
| 8 | 1-790-379-11 | WIRE (FLAT TYPE) (10 CORE) | |
| 103 | 1-452-899-11 | MAGNET | |
| 122 | 1-777-955-11 | WIRE (FLAT TYPE) (16 CORE) | |
| 186 | 1-670-207-11 | TRANSLATION (HEAD) BOARD | |
| ⚠351 | 8-848-483-05 | PICK-UP, OPTICAL KSS-213C/Q-RP | |
| 356 | X-2626-202-1 | CHASSIS ASSY (MB), MOTOR (SPINDLE) (INCLUDING M701) | |
| ANT1 | 1-501-891-11 | ANTENNA, TELESCOPIC | |
| ⚠F902 | 1-576-109-11 | FUSE (5A/125V) | |
| HE301 | 1-500-338-11 | HEAD, MAGNETIC (ERASE) | |
| HRP301 | 1-543-872-11 | HEAD, MAGNETIC (REC/PB) | |
| M301 | A-3320-436-A | MOTOR ASSY (CAPSTAN/REEL) | |
| M702 | X-2625-769-1 | GEAR ASSY (MB), MOTOR (SLED) | |
| S301 | 1-571-556-11 | SWITCH, LEAF (DIR) | |
| S302 | 1-571-556-11 | SWITCH, LEAF (DIR MODE) | |
| S303 | 1-571-556-11 | SWITCH, LEAF (TAPE PLAY) | |
| S304 | 1-692-302-11 | SWITCH, LEAF (MOTOR ON/OFF) | |
| S305 | 1-692-302-11 | SWITCH, LEAF (REC (FWD)) | |
| S501 | 1-692-960-11 | SWITCH, PUSH (1 KEY) (CD DOOR OPEN/CLOSE) | |
| SP301 | 1-529-185-11 | SPEAKER (10cm) (L-CH) | |
| SP302 | 1-529-185-11 | SPEAKER (10cm) (R-CH) | |
| ⚠T901 | 1-433-638-21 | TRANSFORMER, POWER | |

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| | | |
|---|---|---|
| | | ACCESSORIES & PACKING MATERIALS |
| | | ********** |
| ⚠ | 1-783-878-11 | CORD, POWER |
| | 3-027-153-11 | LID, BATTERY CASE (for RMT-CS38A) |
| | 3-865-707-11 | MANUAL, INSTRUCTION (ENGLISH) |
| | A-3250-910-A | RMT-CS38A//C SET |

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**********
HARDWARE LIST
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| | | |
|---|---|---|
| #1 | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S |
| #2 | 7-685-648-79 | SCREW +BVTP 3X12 TYPE2 N-S |
| #3 | 7-685-533-19 | SCREW +BTP 2.6X6 TYPE2 N-S |
| #4 | 7-685-781-09 | SCREW +PTT 2X4 (S) |
| #5 | 7-682-548-04 | SCREW +B 3X8 |
| #6 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S |
| #7 | 7-621-772-10 | SCREW +B 2X4 |
| #8 | 7-685-782-01 | SCREW +PTT 2X5 (S) |
| #9 | 7-685-132-19 | SCREW +BTP 2.6X5 TYPE2 N-S |

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.



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